



RESILIENCE



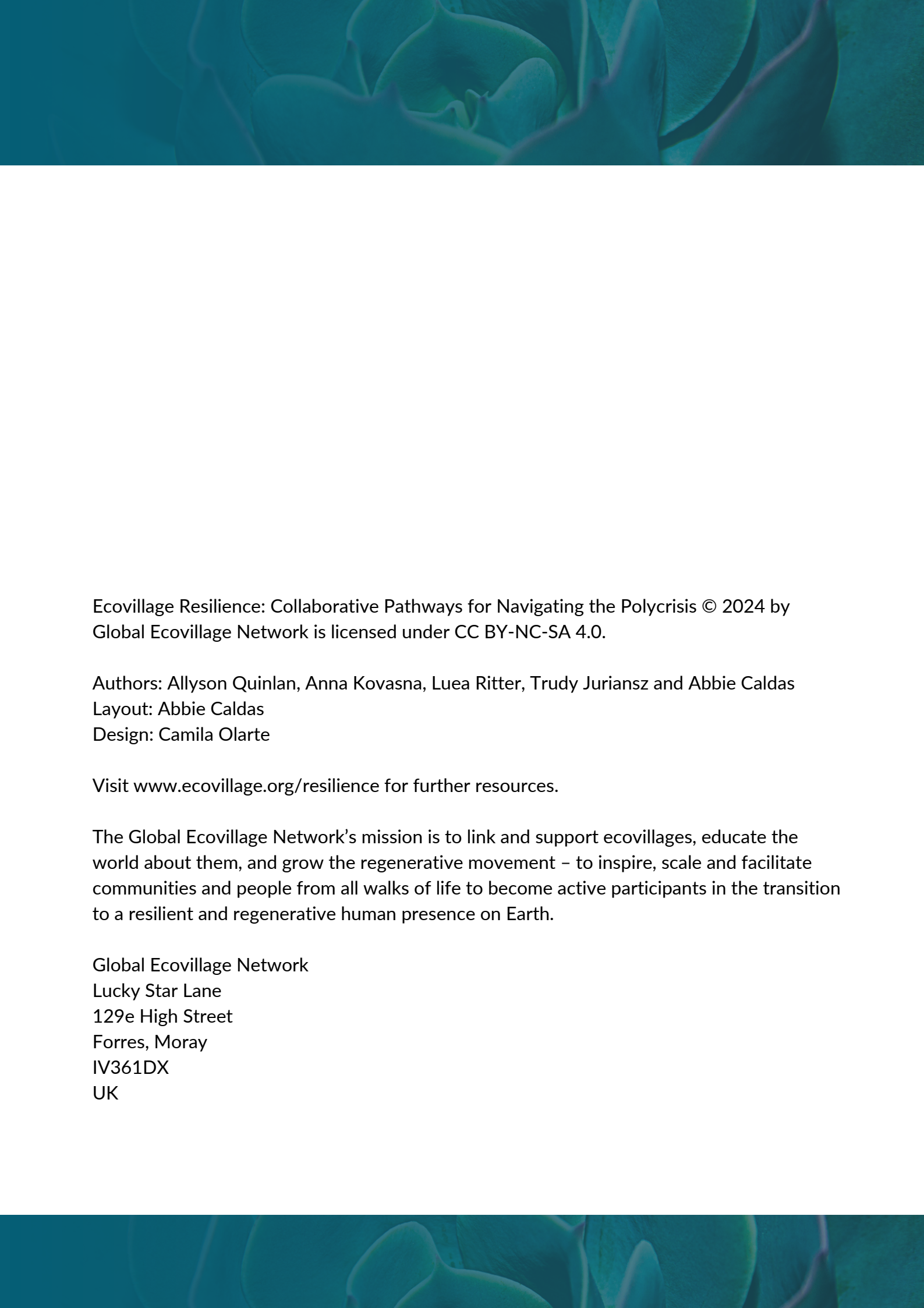
Ecovillage Resilience

Collaborative Pathways for
Navigating the Polycrisis

**A report on the resilience of 20
ecovillages to a +2.5 degree
global warming scenario**



GLOBAL
ECOVILLAGE
NETWORK



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Visit www.ecovillage.org/resilience for further resources.

The Global Ecovillage Network's mission is to link and support ecovillages, educate the world about them, and grow the regenerative movement – to inspire, scale and facilitate communities and people from all walks of life to become active participants in the transition to a resilient and regenerative human presence on Earth.

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SUMMARY & KEY THEMES

From November 2021 to May 2024, the Global Ecovillage Network engaged in a collaborative inquiry into the resilience of ecovillages to a +2.5 degree climate change scenario, guided by four objectives.

1. Assessment of the social-ecological resilience and transformative potential of a diverse group of ecovillages; highlighting strengths and weaknesses of ecovillages, taking into consideration current practices and how they can be adapted.
2. Capacity building and knowledge co-production within a Community of Practice (CoP) including knowledge sharing around current practices to strengthen resilience; going beyond sustainability.
3. Learning about and sharing ways of building personal and interpersonal resilience and reflecting on its contribution to social-ecological systems resilience.
4. Initiating an adaptation of the ecovillage model to the climate crisis, grounded in collaborative research and sense-making

The Resilience Assessment

Over 18 months, a resilience assessment of 20 ecovillages in 18 countries was conducted through a combination of online community calls and training with a Community of Practice of ecovillage representatives, and local workshops and data collection carried out by CoP members from each community. The focus was the social-ecological resilience of these communities to a +2.5 degree global warming scenario. The findings revealed that while each ecovillage has unique strengths and weaknesses and resilience and climate change impacts are unevenly distributed across the network, there are still commonalities. Common strengths include community cohesion and willingness to work together during crisis, reciprocity and sharing resources, and maintaining an experimental and creative mindset. Significant gaps exist in food security, supply chain connectivity, early warning systems, emergency response and strategic planning that takes into account projected climate change impacts, integrates relevant monitoring data, and manages risk across multiple future scenarios. While ecovillages have a baseline resilience to climate change due to their many sustainable and regenerative practices, this is not enough in a +2.5 degree scenario. Recommendations for next steps are thus to leverage the strengths of ecovillages to cocreate new skills and practices for areas where resilience is lacking.

The Community of Practice

The Community of Practice (CoP) met 46 times between October 2022 and May 2024. Members learnt about resilience and from different angles, and learned to deliver 12 local workshops and activities. Reports and experiences from these activities were shared and analysed together. CoP members delivered and reported on a total of 167 local sessions.



Nearly 60 people engaged with the CoP, though a few joined or left during the 18-month period. The calls featured strong participation and open sharing of both struggles and joys in each community and in relation to the varied topics of the resilience assessment. Members recognised the value of learning from one another and often expressed gratitude for connecting across cultural, linguistic, and geographical boundaries. They appreciated the sense of belonging to a global community and valued having a safe space to also discuss climate grief and anxiety. The final reflections on the resilience assessment and next steps for ecovillages were formulated collaboratively within the CoP. Members were also actively involved in co-creating indicators and scales for tracking community resilience.

The exploration of personal and interpersonal resilience

The CoP engaged in the mapping and cocreation of a shared knowledge-base for personal and interpersonal resilience practices. This surfaced strengths that all 20 ecovillages have in common, and that align with findings in the resilience assessment. These include maintaining trust, social cohesion and capacity for collective action, and nurturing an experimental mindset. Conversations revealed that while these are areas of strength, they are also areas where ecovillages experience challenges. Communities are in fact ongoingly tending to these areas of potential challenges, and actively build resilience through consciously designing and implementing a wealth of practices. They highlight communication, self-governance, shared visions and values, tending to emotions, and regularly coming together as core elements of building resilience. Findings also showed that ecovillages consider connection with nature, nature conservation and regenerative practices as essential elements of their inner resilience, and that cultural, creative and spiritual practices play an important role in fostering personal and interpersonal resilience, ecosystem stewardship and community cohesion.

Reviewing the Ecovillage Model

To evaluate the viability of the ecovillage model in a +2.5 degree scenario, an additional step was to compare the existing 32 ecovillage design principles with the social-ecological resilience indicators developed with the community of practice through the project. This revealed several insights. It highlighted ecovillage practices that already support social-ecological resilience, those that aim for social transformation that goes beyond resilience thinking, and gaps in the model that weaken ecovillage resilience to climate change and polycrisis. The identified gaps align with the findings from the resilience assessment, indicating that the ecovillage principles are a fair reflection of actual ecovillage practice, but that both model and practice can be adapted to navigate more turbulent times. Based on these findings, the ecovillage design principles would benefit from including new or stronger focus on food security and supply chains, redundancy in key systems, early warning systems and emergency response plans, and adaptive learning incorporating monitoring data and future scenarios into decision-making.

Key findings and Recommendations

Woven together, these findings indicate that Ecovillages exist because their members share an ambition for wider social and economic transformation based on ethics of shared wellbeing and care for the earth. They use a creative blend of mutually reinforcing social, ecological, economic and cultural practices to cocreate experimental high-trust communities that place stewardship and lived experiences of interdependence with nature at the heart. Areas in which ecovillage resilience to climate change appears strong are largely related to those aims, and reflect practices consciously designed and selected to allow communities to work together towards shared goals and values, and to navigate the challenges and opportunities of a more community-oriented lifestyle and path to transformation. These capacities of holistic and values-oriented design, earth and people care, and collective action now need to be turned towards increasing resilience through better integration of climate risk, and rapidly increasing food security, emergency preparedness, and capacity for strategic planning.

Next steps for ecovillages and GEN include enhancing knowledge sharing, scaling resilience efforts, amplifying regional work, and maintaining a global community of practice to foster further connection and learning in order to build additional capacity, tools and frameworks that strengthen models for locally appropriate and life-affirming responses to polycrisis.



Ecovillage Design Education session in Auroville, India. Photo by Eugenie Dumont

CONTENTS

1. <u>Introduction</u>	1
1.1 Background and Rationale	2
1.2 Ecovillages and Resilience	3
1.3 Guiding Questions	4
1.4 Project Objectives	4
1.5 Context of Global Ecovillages	5
2. <u>Participating Ecovillages</u>	9
3. <u>Participatory Research Process & Methodology</u>	12
3.1 The Community of Practice	14
3.2 The Resilience Assessment Process	16
3.3 Interweaving Social-Ecological Resilience with Inner Resilience and Capacities	17
3.4 The Process of Exploring Personal and Interpersonal Resilience	18
4. <u>The Resilience Assessment</u>	19
4.1 Community Workshops	19
4.2 Resilience Attributes Tracker	27
4.3 Synthesis and Summary of Key Findings of the Social-Ecological Resilience Assessment	29
5. <u>Deepening Personal and Interpersonal Resilience</u>	37
5.1 Community Workshops	37
5.2 Key Findings from the Exploration of Personal and Interpersonal Resilience	44
6. <u>Going Forward</u>	
An Ecovillage that is both Regenerative and Resilient?....	50
6.1 Revisiting the Ecovillage Model from a Resilience Perspective	50
6.2 Recommendations for Ecovillages	55
7. <u>Impact of the Resilience Assessment Project</u>	58
7.1 Lessons Learned	58
7.2 Voices from the Community of Practice	59
7.3 Stories of Resilience	60
8. <u>Conclusion & Future Directions</u>	61
9. <u>Next Steps - Keystone Communities</u>	62
10. <u>Acknowledgements</u>	65

1. INTRODUCTION

From November 2021 to May 2024, the Global Ecovillage Network and its members engaged in a collaborative inquiry into the resilience of ecovillages to a +2.5 degree climate change scenario. With expert researchers and facilitators in the field of social-ecological, personal and interpersonal resilience, ecovillage design and social transformation, 20 ecovillages from 18 countries gathered to explore what ecovillages can nurture today to be more resilient tomorrow.

Together, we set out to do a resilience assessment of ecovillages and key ecovillage practices to a +2.5 degree scenario; do a deep-dive into the capacities needed to build personal and interpersonal resilience in that reality; and create visions and pathways for ecovillages in 2040, grounded in both. This report is a summary of our findings.



1.1 Background and Rationale

The linked challenge of a global polycrisis and climate change is dramatically changing the conditions for life on Earth. The growing potential of interacting shocks and stressors from local to global scales is driven by climate change as well as complex system dynamics. Building capacities to live and develop with change and uncertainty, absorb shocks and retain the ability to transform systems amidst crises and unsustainable pathways is essential for safeguarding or improving conditions for people, other beings, and ecosystems in a turbulent future.

Imagining a future with Earth warming 2.5 degrees or more above pre-industrial temperatures before the end of this century is both abstract and alarming. And yet, the latest UNEP Emissions Gap report concluded that this scenario is exactly the path that we are currently on. Many communities, including ecovillages, especially in the Global South, already live at the frontlines of climate change, facing increasing drought, severe coastal erosion, sea level rise, salt water intrusion, floods, extreme weather events, and mass migration. Many of these communities are scaling their disaster response, while experimenting with water management, drought tolerant crops and more. Some face social breakdown and violence as crises ripple through interconnected systems. Widespread climate change-induced disruptions have begun, system feedbacks have been activated, and change is accelerating. A collective effort to respond wisely and alter this course remains both possible and necessary for the wellbeing of life on Earth. Knowledge and examples of resilient communities can provide some direction.

What creates resilience in the face of climate change and other linked crises varies by location, but resilience thinking can be applied universally with a guiding set of attributes and a structured assessment process. Resilience, in this context, reflects the capacity of a community as a social-ecological system, to prepare for and respond to change by absorbing shocks in ways that sustain the well-being of people in and around the community and the natural systems they depend upon. This includes the capacity to adapt, keep options open, and transform to pursue new pathways when necessary. With such uncertainty of the future, understanding how to build and nurture resilience within communities is critically important for the well being of people and support systems that all life depends upon.



1.2 Ecovillages and Resilience

Ecovillages are experimental settlements and communities designed to be sustainable or regenerative in a wide variety of contexts. Existing across the world, they are often founded as responses to unsustainable pathways, explicitly aiming to model positive alternatives that avert crises like climate change, biodiversity loss, pollution, economic injustice, food insecurity, and social fragmentation. Now, ecovillagers, like many others, are realizing that the future they tried to avert has become real.

This movement now faces a critical question: What's next?

What happens when the aim no longer is to 'just' turn society around to avert climate disaster, but how to adapt to and mitigate it, while also striving for a more just, ecological, and meaningful future for all life?

**What does a regenerative and resilient ecovillage look like,
today and in the next twenty years?**

This report and the work it reflects begins to answer those questions.



1.3 Guiding Questions

- How resilient are ecovillages to climate change? To a 2.5 degree scenario? To the Polycrisis?
- What can ecovillages do to become more resilient to climate change and the polycrisis?
- How can GEN actively contribute to building resilience more broadly within the regions and social-ecological systems in which communities are nested?
- How can ecovillages enhance and strengthen their practices to prepare for potential climate change scenarios while amplifying their collective impact and transformative capacity?

1.4 Project Objectives

- Assessment of the resilience and transformative potential of a diverse group of ecovillages; highlighting strengths and weaknesses of ecovillages, taking into consideration current practices and how they can be adapted
- Capacity building and knowledge co-production within a Community of Practice (CoP) including knowledge sharing around current practices to strengthen resilience; going beyond sustainability
- Learning about and sharing ways of building emotional resilience and reflecting on its contribution to social-ecological resilience
- Initiating an adaptation of the ecovillage model to the climate crisis, grounded in collaborative research and sense-making



Gathering at Pitchandikulam Forest, Auroville, India. Photo by Eugenie Dumont

1.5 The Context of Ecovillages

Ecovillages as Seeds of the Future Anthropocene

“As threats to society and nature are highlighted, many people are increasingly engaging in strategies to create a more just, prosperous, and ecologically diverse world – what we call a “good Anthropocene”. We propose that we can develop better scenarios by starting with those emerging innovative ideas, ways of living, and transformational projects. We call such concepts Seeds of Good Anthropocenes.”

- Seeds of Good Anthropocenes project

Ecovillages are living laboratories for locally embedded social, cultural, ecological and economic regeneration, collaborative design, and sustainable living. Some are small hamlets or collective housing projects, and some are large networks of villages or federated communities with thousands of members creating alternative systems for every aspect of life. While they are rooted in and responding to very diverse local contexts and needs, they are united by a willingness to consciously cocreate a healthy and thriving world for all life through the way daily life is lived and organized.

Ecovillages are a form of prefigurative politics – using the power of shared vision and collective action to live and practice the ideals of the society they want to bring into existence. They are also education centers, inviting tens of thousands of visitors each year to experience and learn about regenerative living in participatory and immersive ways. In terms of impact, they often have influence far beyond their modest size. To call them seeds of different realities already existing within mainstream structures is not a stretch. For decades, ecovillages on all inhabited continents have provided spaces of imagination and examples that sustainable and regenerative lifestyles are both possible and fulfilling.

But are they seeds of good Anthropocenes, when even our most positive future scenarios point to a level of uncertainty, volatility, and unravelling that is sometimes difficult to even imagine before it touches us personally? Are communities that were designed to be sustainable, also resilient to climate change? And what will it take to go from seed to sapling to tree when the rains disappear and the soil is dying?

What is an ecovillage?

The Global Ecovillage Network (GEN) defines an ecovillage as a community that is consciously designed through locally owned, participatory processes weaving together social, ecological, cultural and economic aspects of life to regenerate their social and natural environments.

Ecovillages often include practices like local currencies, cohousing, cooperative businesses, permaculture, consent decision-making, prosocial values, green building, sustainable water harvesting and treatment, renewable energy, circling, arts and ceremony, and more. Their uniqueness lies in the holistic integration of these practices to create fully featured alternative societies reflecting different worldviews and sets of values in all aspects of life. They are place-based and residential settlements where people live, work, and play together, while realising their dreams and ideas together.

Of course, the result is never perfect, as ecovillages balance their values, rules, and aims within the surrounding society, resulting in compromises and continuous adaptation as they encounter both internal and external obstacles to living their chosen life.

Since each ecovillage is designed by the people who live there, according to their vision, context, culture, needs and interests, ecovillages are also very diverse. To be recognised as an ecovillage by GEN, however, a community must have at least 20 residents, have existed for over two years, have the ambition to work in all four areas of regeneration, and subscribe to the 32 ecovillage principles - a map of good practice for ecovillage living. They must also be non-extremist, open, and non-discriminatory. Most ecovillages are rural, but there are also urban communities or eco-neighbourhoods with a common vision to reinvent life to become more regenerative, collaborative and participatory.

Within GEN, the term 'traditional ecovillage' refers to pre-existing communities that become ecovillages. They often aim to combine traditional knowledge with innovation and new technology to cocreate alternative pathways to living well while navigating the pressures of climate change, global market economy, depopulation, resource grabs and forced industrialisation. Initiatives are often connected in local networks of villages or programmes and supported by local NGOs and sometimes also local and national governments. Inclusion in the Global Ecovillage Network, however, requires local ownership and leadership and a holistic and participatory approach. Within GEN, a majority of traditional communities are in the Global South and the resilience research presented here included six traditional communities from Colombia, Togo, Ghana, Gambia, Zimbabwe, and Bangladesh.

The term 'intentional ecovillage' refers to new communities where people have chosen to live together with a common purpose, working cooperatively to create a lifestyle based on shared values. Most intentional ecovillages go through a founding phase when a group collectively decides on a purpose and agreements, purchases a site, and develops their physical infrastructure, and social, cultural and economic life accordingly. While some restore existing neighbourhoods or abandoned villages, they are usually inhabited by people who chose to join the collective endeavour. Intentional communities often have smaller populations than traditional communities. The project included 14 intentional communities, located in Uruguay, Brazil, Mexico USA, Italy, Germany, The Netherlands, Finland, Scotland, India, Australia and New Zealand.

GEN, the Global Ecovillage Network, evolved organically to bring together this diverse tapestry of ecovillages that had grown independently around the world. Officially founded in 1995, today GEN consists of five regional networks; GEN Africa; GEN Europe, GENOA - Oceania & Asia; CASA Latina - Latin America; and GENNA - North America; as well as a youth network (NextGEN); and a global coordinating body – GEN International, which is the holder of this research into the resilience of ecovillages everywhere. GEN's core work builds bridges between policy-makers, NGOs, academics, entrepreneurs, activists, community networks, and ecologically-minded people across the globe in order to develop strategies for a global transition to regenerative and resilient communities and cultures.



Ecovillage design workshop with Mugove Nyika from Gudza Ramuka Ecovillage, Zimbabwe

The map of regeneration & 32 ecovillage principles

Out of decades of ecovillages experimenting, learning and educating, GEN synthesized a map of regeneration. The map illustrates the ecovillage model through 32 key principles for ecovillage design. While no ecovillage is perfect, or has impactful and up to date practices in all these fields, together, the principles give a good view of the areas in which ecovillages primarily are experimenting with practices and solutions for redesigning human communities.

On a conceptual level then, this is the ecovillage model which this project also aimed to evaluate and adapt in light of resilience to a +2.5 degree or more scenario. The ecovillage principles for each area of regeneration are presented in summary below or with more detail on [GEN's website](#).



2. PARTICIPATING ECOVILLAGES

2.1 Geographical Distribution

The Ecovillage Resilience project and research directly involved members and representatives of 20 ecovillages and the five regional networks of GEN.

The ecovillages applied to join, and were selected based on a set of criteria including geographical location, size, time since founding, capacity to participate, and connection to the ecovillage movement.

The final cohort included three ecovillages from North America, four from South America, four from Africa, five from Europe, and four from Asia-Oceania. Countries represented are USA, Mexico, Colombia, Brazil, Uruguay, Finland, Scotland, Germany, the Netherlands, Italy, Gambia, Togo, Ghana, Zimbabwe, India, Bangladesh, Australia and New Zealand, with additional regional representatives based in Cameroon, Spain and Vietnam.

There is one urban community, with the other 19 being rural or peri-urban. Climates include arctic, temperate, tropical and semi-desert. There are both inland and coastal communities.



2.2 Overview of Participating Communities

Ecovillage	Country	Type	Biome / Climate	Current Members	Geographical Size	Founding year
Ecovillage d'Ando-Kpomey	Togo	T	Tropical dry forest / Savanna	1200		1915
Gudza Ramuka Ecovillage	Zimbabwe	T	Subtropical savanna	22 households	7.4 acres	Traditional village 1939; Ecovillage in 2022
Bomigo	Ghana	T	Tropical savanna - dry forest / marine coastal	1500		1900
People's Coast Ecovillage Network	Gambia	TN	Tropical savanna - dry forest / marine coastal	9 villages of 1500 - 14000		2015
Govardhan Ecovillage	India	I	Tropical monsoon / forest	350	100+ acres	2003
Narara Ecovillage	Australia	I	Temperate oceanic	180	63 hectares	2004
Earthsong Eco-Neighbourhood	New Zealand	I	Temperate oceanic, Urban	68	3 acres	1995
BEDS Sundarban Ecovillage Project	Bangladesh	T	Tropical coastal wetland / Mangrove	6067		2015
Findhorn Ecovillage	Scotland	I	Temperate oceanic coastal / estuary	600	125 acres	1962
Ökodorf Sieben Linden	Germany	I	Temperate oceanic, Inland	140	258 acres	1997
Keuruu Ekokylä	Finland	I	Subarctic, taiga	40	50 hectares	1997
Damanhur Federation	Italy	I	Temperate, foothills	600	1200 acres	1975
Ecodorp Boekel	Netherlands	I	Temperate oceanic	61	2 hectares	2016
Atlan Center	USA	I	Cool-summer; Mediterranean / Montane forest	25	151 acres	2010
The Farm	USA	I	Humid subtropical	220	4000 acres	1971
Hundredfold Farm	USA	I	Humid continental	19	75 acres	1998
Islas de Rosario, Centro Ubuntu	Colombia	T	Tropical coastal	1200, 4 run the center	200 hectares	Village self-ownership deed 2010
La Tierrita / Comarca	Uruguay	I	Temperate grassland	50		2000
Ecoaldea Huehucoyotl	Mexico	I	Subtropical highland, Forest	20	2.5 hectares	Land 1982, Group 1968
Ecovila Piracanga	Brazil	I	Tropical rainforest, Coastal	220	90 hectares	Land 2004, Community 2011

Table 1: Participating Ecovillages

Ecovillage Snapshot: Ecodorp Boekel



Located on 5 acres in the town of Boekel in the Netherlands, Ecodorp Boekel is home to 33 adults and 13 children, and an extended membership of supporters. Since its inception in 2016, the ecovillage community has aimed to inspire sustainable and climate adapted living, viewing the ecovillage not only as a residence but as a catalyst for environmental consciousness.

They are known for their carbon positive architecture, designed to sustain all weather extremes. Constructed with natural and recycled materials, the buildings emphasise energy efficiency, passive solar heating, and natural insulation, enabling complete reliance on renewable energy. Permaculture principles guide their climate-adapted agricultural activities as well, promoting biodiversity and soil health and producing a significant portion of the community's food.

Social resilience is also a cornerstone of Ecodorp Boekel, designed to encourage interaction and collaboration through shared spaces and activities. Decision-making is done through a system which distributes authority throughout self-organising teams ensuring all members have a voice. Owned cooperatively, the land and homes always remain affordable and are never sold commercially. Rents are neither market based nor indexed, which means they will become increasingly cheaper over the next 30 years, compared to the national average rent.



This sense of community extends beyond the village, as they serve as an educational hub offering workshops, tours, seminars, and partner with educational institutions to host students and researchers. They actively participate in the Global Goals programme, contributing to the broader dissemination of sustainable practices.

While Ecodorp Boekel is a successful model, they have faced challenges such as high initial infrastructure costs as well as scalability. Like all communities, social cohesion and effective decision-making requires ongoing effort and commitment from all residents. They have learned the importance of strong planning, community engagement, and flexibility in adapting to new technologies and practices.

Boekel ecovillage frequently features in news and documentaries, attracting visits from local government officials and earning several awards, including the most sustainable organisation in the Netherlands. They earned the public choice award during the Sustainable Built Environment Congress with the recognition of their combination of such a wide range of aspects of sustainability, being nature-inclusive, climate-adaptive, climate-positive, and integrating circular economy and social sustainability. In 2023, they won the Brabant Circularity Prize to recognize their inclusion of circularity in construction as well as food and energy production, and in how the neighbourhood is owned by the entire community.

3. PARTICIPATORY RESEARCH PROCESS & METHODOLOGY

Simultaneously working with 20 communities to map, nurture and assess resilience required an innovative blended approach to resilience assessment, and a sensitivity to a wide range of cultural, linguistic, and geographical contexts. Rather than a team traveling to each community to facilitate the work of mapping and assessing elements of resilience, the work took place through an online community of practice combined with local workshops held by members of each participating ecovillage. Our aim was to create a transformative learning environment able to support the emergence of clear insights leading to tangible actions and innovation in the light of the unfolding polycrisis. It was also to carry out and interweave three mutually reinforcing strands:

1. **The Resilience Assessment** of ecovillages to a +2.5 degree climate change scenario, focusing on the social-ecological resilience of communities.
2. **Deepening Personal and Interpersonal Resilience:** The mapping and nurturing of individual and collective capacities and practices for personal and interpersonal resilience.
3. **The Community of Practice (CoP):** The building of a trust- and solidarity based network of peer learning focusing on social-ecological resilience within the Global Ecovillage Network (with the intention that it can later grow and include other aspects of resilience as well as other communities and people).

“This has been a real opportunity, actually, and has inspired us to re-think things. We realised that we can re-work our systems in a way that single households can't. We're looking at how, collectively, we can really leverage that to do something out of the norm, perhaps a bit ahead of the norm. And in the process, we build our community connections, because we're spending a lot of effort and time sitting together re-thinking things. And that's exciting. It fulfills a part of that pioneering spirit.”

- Robin Allison, Earthsong Eco-Neighbourhood, New Zealand

”



To achieve this, the core team, made up of one scientific resilience and resilience assessment expert, two expert facilitators and process designers, one project coordinator, and one ecovillage expert and project lead, together designed a unified process in four stages, or arcs:

Initiation, Sensing & Systems Scoping

- To initiate a sense of community
- To sense into the trajectory ahead and the layers of exploration
- To provide an opportunity to develop a shared understanding of the history and dynamics of a community as a social-ecological system

Deep Dive & Thresholds of Potential Concern

- To collectively explore root issues, tipping points, global dynamics and the potential impacts of a +2.5° scenario
- To dive into the field of personal and interpersonal resilience to find resources to be with the reality of a +2.5° scenario
- To celebrate capacities, practices, and competencies already present as resources for resilience

Visions & Pathways

- To envision desired future scenarios and alternative pathways
- To co-produce a set of indicators grounded in resilience science and evaluate strengths and weaknesses at the community level
- To orient, reflect, and look ahead

Synthesis

- To review community reports, elicit emerging themes & summarise findings
- To harvest the richness of the journey
- To celebrate and consciously close this chapter of the CoP and its activities

Together, the arcs were composed of 23 blocks, each three weeks long and containing one community of practice session with associated local activities and workshops, reading material and exercises.

3.1 The Community of Practice

The Community of Practice consisted of 1-3 representatives from each of the twenty ecovillages and 1 representative from each of the 5 regional divisions of the Global Ecovillage Network - GEN Oceania and Asia, GEN Africa, GEN Europe, CASA Latina, and GEN North America. All representatives committed to meeting online every 3 weeks from September 2022 to May 2024. The calls were held at two different times to accommodate people in different time zones.

These facilitated sessions followed a pattern of welcoming everyone and taking time to check in. They included a mix of presentations, plenary discussion, breakout groups, digital whiteboards, time for Q&A, and checking out. The agendas were shared on a project website on the platform Coda. The website provided a space to describe each session in advance, including the agenda, and links to any additional resources as well as recordings of past calls. Most sessions also included a resource pack for holding community workshops based on the material and training provided in the tri-weekly sessions.

After holding community workshops, ecovillage representatives uploaded detailed reports, including answers to activity questions, reflections, photos and other images. Each community had its own space on the portal that compiled all of their reports and other inputs. Regional representatives supported information flows throughout the GEN network, provided perspectives from their region, and held occasional Regional calls for ecovillages to discuss for example region-specific impacts of climate change.



Ecovillage Snapshot: Earthsong Eco-Neighbourhood



Earthsong is a pioneering urban cohousing ecovillage located in a suburb of Auckland, New Zealand. Established in 1995, its founders aimed to demonstrate practical, sustainable solutions to common urban living challenges such as isolation and high resource consumption while inspiring others by showcasing the possibilities. Among the 68 residents are 15 children and representation from 13 different countries. By balancing the need for privacy and autonomy with cooperation and commitment to community, and by applying the principles of green architecture and services on a neighbourhood scale, Earthsong demonstrates a multi-layered approach to creating a healthier and more sustainable living environment.

The location was deliberately chosen as the Eco-City policy aligned with the community's vision. Ranui, known as a culturally diverse, low income suburb, hosts numerous innovative community initiatives and boasts enormous community spirit. It's accessible to city amenities as well as nature's beauties. What's more is that homes are comparable in price with other high-quality townhouses in the region, but residents benefit from lower living expenses thanks to renewable energy infrastructure and co-ownership of resources and services.

Within the community, the Common House is the hub of social activities. This beautiful space at the centre is owned jointly by all the householders as an extension of their homes, enabling large shared events including dinners, meetings, tours, and larger celebrations. Intergenerational friendships are fostered, with trust and reciprocity being core elements among neighbours. Decisions are made by consensus, also with the awareness that in order to move forward at the pace required of a substantial housing development, a clear decision-making structure is necessary. A key element of this is their membership structure which defined who was included in the decision-making.

Earthsong has been featured in over 50 magazines and books and on national radio and news. They won Auckland's Regional Council Environment Awards in Property Sector Urban Design and were finalists in the Built Environment Awards and the World Habitat Awards. This recognition is only one aspect of their mission to raise public awareness. Like many other ecovillages, Earthsong values contribution to global sustainability by building a neighbourhood to the highest practical standards of sustainable human settlement, both socially and environmentally, while also sharing their learnings.



3.2 The Resilience Assessment Process

The social-ecological resilience assessment approach the CoP and the 20 ecovillages engaged with follows and builds upon a well-documented framework developed by the Resilience Alliance, that is research-based and has been in practice for close to two decades. The assessment was organised into five phases, each of which involved a training component, local workshop activity, discussion, reflection and reporting. Each of the twenty communities assessed the resilience of their community to the linked challenges of climate change and the polycrisis. Each workshop that was led by representatives within their own communities, included a reporting component. Additionally, a full synthesis of the community reports and discussion notes was analysed to highlight emergent themes and key findings.

The five-phase assessment process began with systems scoping using historical timelines as a way of creating a shared understanding of the forces that have shaped the evolution of each community, noting in particular significant developments and past crises and how people in the communities responded to these events. The communities then developed and explored conceptual models of their community as a social-ecological system, identifying key components and relationships including external drivers of change and feedback loops that balance or speed up the changes that are happening. Building on this knowledge the communities learned about and discussed the concept of global tipping points and explored how local system dynamics might lead to thresholds being crossed within their own communities.

Following this deep dive into the stark reality of a +2.5 degree world, we considered positive alternative future scenarios and the pathways to achieving them using tools such as the 3 horizons model and scenario narratives. Each phase of this assessment process was designed to help one view their community through the lens of complex adaptive systems before considering how to apply that understanding. Lastly, and in order to provide more targeted insight into how to build resilience within their community, we co-developed with the community of practice, a set of 31 indicators of social-ecological resilience to help reveal strengths and weaknesses within each community.





3.3 Interweaving Social-Ecological Resilience with Inner Resilience and Capacities

Exploring resilience to radical climate change and polycrisis involves confronting daunting realities and profound disruptions to communities and biodiversity worldwide. Facing these challenges head-on requires courage and the ability to maturely handle intense emotions and social dynamics. Without nurturing personal and collective capacities to navigate crises and challenges, we compromise our ability to respond effectively, act in solidarity, recover from disasters, and function in a healthy manner as individuals and communities together.

Therefore, our project integrated social-ecological resilience with sessions and activities designed to explore and nurture personal and interpersonal resilience, which is the ability of individuals and social networks to navigate shocks and disruptions, cope and work through intense emotions, and manage interpersonal dynamics amidst the pressures of climate change and polycrisis.

Weaving personal and interpersonal resilience into our project contributed to all three strands of the research process:

- For the Resilience Assessment, it allowed us to go deeper and more sensitively into exploring destructive systems dynamics, tipping points, and the impact of a +2.5 degree scenario by nurturing inner resources and capacities for tending to the emotions and social dynamics that arise as we contemplate the magnitude of disruption, loss and risk.
- For the exploration of personal and interpersonal resilience it facilitated a mapping and synthesis of current practices and approaches used in ecovillages and understanding of their contribution to overall resilience.
- For the Community of Practice it enabled us to build a stronger culture with a shared set of approaches and increasing capacity to support each other, with opportunities to speak about fear, climate grief, anger, anxiety, loss and challenges in ways that strengthen relationships and deepen solidarity across differences.

Our aim in weaving personal and interpersonal resilience capacities into the assessment process was to build community and safe spaces, develop and map capacities for being with inner and emotional aspects of crisis, nurture skills in attending to deeper social issues and dynamics, and cultivate skills to grow wellbeing and community cohesion also when climate change and polycrisis make it harder. It was also to support deeper personal transformation and more grounded pathways to the future. By giving space to personal resilience, we also hoped to support each other in processes of deep reflection in the light of the polycrisis.



3.4 The Process of Exploring Personal and Interpersonal Resilience

In our working definition, personal resilience pertains to an individual's ability to recover from challenging situations, manage adversity, and effectively adapt. It encompasses mental, emotional, and physical well-being, maintaining a positive perspective and taking proactive measures to overcome obstacles, and dealing consciously with loss and grief. Interpersonal resilience refers to the capacity to navigate and sustain healthy relationships and manage social dynamics, particularly during crisis, stress, or conflict.

The majority of sessions dedicated to personal and interpersonal resilience took place during the second arc called 'Deep Dive and Thresholds of Potential Concern.' This design choice combined the most upsetting and frightening elements of the resilience assessment with a focus on inner resources and increasing the capacity of the CoP to bear witness together. This arc was followed by the resilience assessment steps of visioning and pathways to the future, with the aim that those activities would build on an integration of scientific knowledge, a deep acceptance of future risk, and a sense of community and inner resource.

The sessions of the Deep Dive started with identifying and discussing existing practices for strengthening personal and interpersonal resilience and connecting with the land. We mapped skills for inner and interpersonal resilience and highlighted the existing implicit and explicit practices individuals and communities already have; helping us understand what still needs to be built and what is already available to be amplified. We then introduced ways of tending to hidden social dynamics related to navigating crises, and surfacing any outstanding issues or unacknowledged feelings related to the topic of the research so far. Third, we mapped essential capacities for inner resilience and surfaced strengths and learning edges in each community.

The Deep Dive was preceded by systems scoping, which also included one session on interpersonal resilience dedicated to surfacing and creating a shared understanding of the root causes for current problems in each community.

Throughout the project, there were also ongoing spaces for participants to share deeply and listen attentively to each other's challenges, diverse realities and creative pathways. A focus on personal practices, slowing down, deepening abilities to be with and articulate what feels intense was invited from the start.

4. THE RESILIENCE ASSESSMENT

Exploring the Social-Ecological Resilience of Ecovillages

4.1 Community Workshops

1. Historical Timelines
- 2 Conceptual models of communities as a social-ecological system
3. Local Thresholds & Global Tipping points
4. Exploring pathways to positive future scenarios

1. Historical Timelines

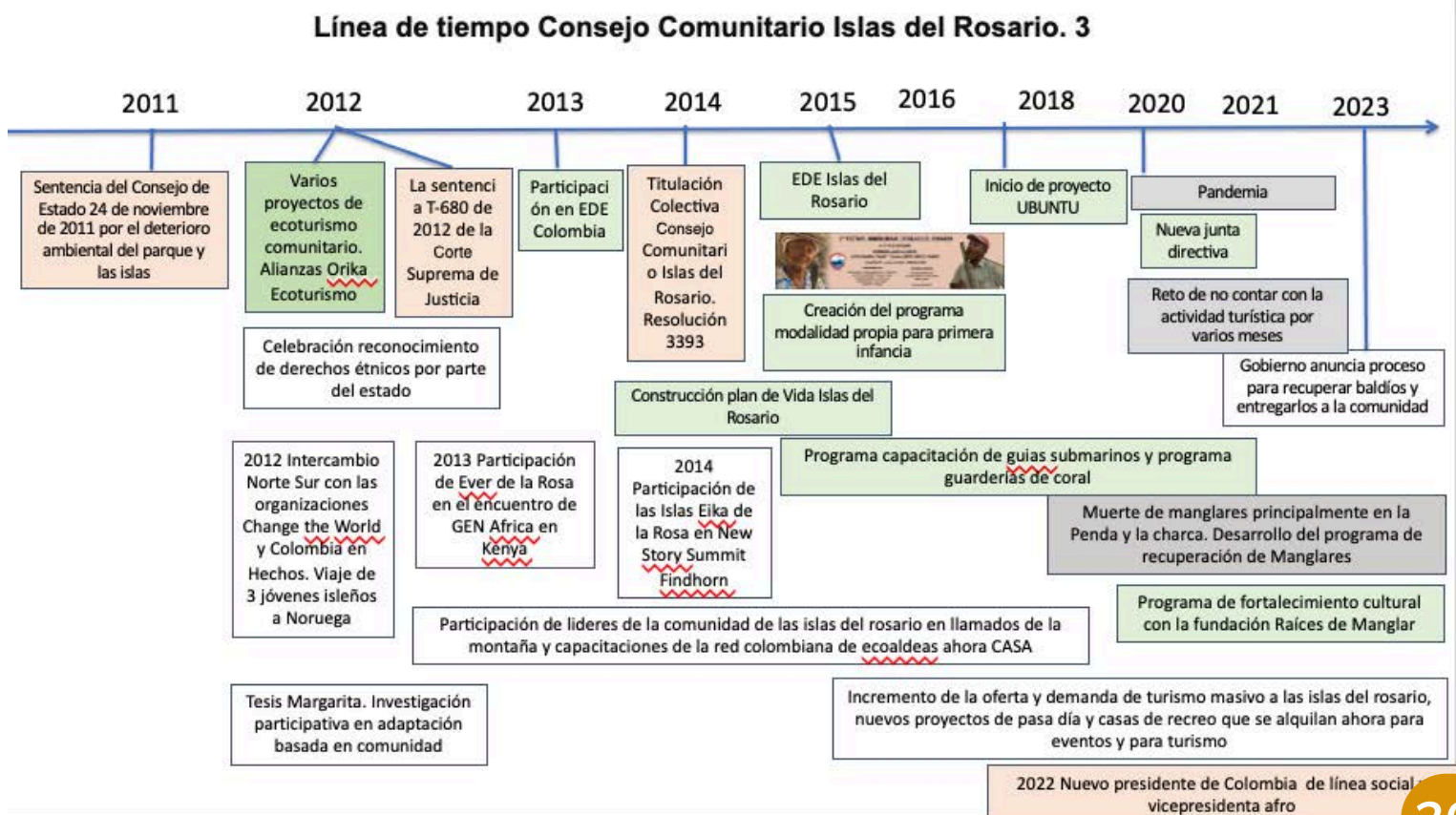
Historical timelines in resilience assessment are an important part of the system scoping phase. They provide a crucial narrative tracing the evolution of communities, highlighting key events that shape its pathway into the present, including responses to various shocks, stressors and changes. In developing timelines, community members share their own knowledge of the past, providing a variety of perspectives and enabling a shared understanding of the community's identity and what it is that people value in the system. By examining historical contexts and events, it is possible to reveal patterns that may offer insight into community strengths and adaptive strategies, as well as vulnerabilities that influence how a community develops. This historical perspective enhances understanding of the factors that are contributing to or hindering resilience, thus facilitating a more informed analysis of the present state.

Importantly, the timeline activity also encourages a systems lens by focusing on the dynamics of change, in this case how the community has evolved and changed over time. The workshop activity enables this system's perspective by inviting community members to explore how past events unfold across different spatial scales and domains (e.g., social, ecological, economic, political). With a “systems-lens” we can see better how the community is connected to the larger region in which it is embedded as well as how different parts or subsystems within the community interact and influence the development and resilience of the whole community.

In discussing and reflecting on the timelines with the community of practice, we saw how each community has a different origin story although often a key person or small group of founding members established the vision and tone for the village that continues to influence community practices and other dynamics. Collectively, the communities have dealt with a wide range of challenges many of which they share in common (e.g., drought or flooding, fewer young people able to do demanding physical work, extreme weather events, community cohesion, etc.) while other challenges are more unique to their context (e.g., sand mining and coastal erosion, mangrove deforestation, colonial legacies, wildfire risk, etc.). Almost all of the communities noted a history and capacity for coming together in times of need to overcome a crisis.

It is not uncommon for a singular past crisis to trigger a response that plays a significant role in shaping a system's trajectory of development. In the village of Ando Kpomey, Togo, a large bushfire in 1972 motivated the community to create a forest surrounding the village that has been added to each year and sustainably managed to provide resources to the community while also helping to prevent wildfire carried by savannah grasses. This adaptive response became a model for other communities, and brought international attention including a major environmental prize, and new resources that allowed the community to invest in a new school and improved forest conservation. Five decades later this historical legacy continues to benefit the community. However, new challenges including some linked to climate change such as recurring drought and heat, as well as the unexpected out-migration of youth seeking opportunities in the city and abroad, require new strategies and novel ways of thinking about adapting or transforming.

Below: An example of a timeline from Ubuntu Islas Rosarios, Colombia



Ecovillage Snapshot: d'Ando Kpomey



Community workshop held in d'Ando Kpomey developing an historical timeline.

d'Ando Kpomey, a village of 1200 residents in Togo was once surrounded by dry shrub savannah prone to destructive bushfires. In 1973, following a devastating fire, village elders proposed creating a forest green belt around the community. Since then, Ando Kpomey has planted, self-governed, and expanded a community forest now covering over 100 hectares. Managed by a Village Development Committee with equal representation of women and men, the forest has significantly improved local biodiversity, rainfall, soil quality, as well as enabled several livelihoods.

The community's reforestation efforts have transformed local life, providing sustainable building materials and firewood. Investments in solar power, biodigesters, improved stoves, water supply lines, and irrigation have further enhanced living conditions and reduced environmental impact. Market gardening, fish farming, plant nurseries, ruminant breeding, and beekeeping have created balanced livelihoods. The village also deeply values traditional practices and beliefs for ecosystem protection and restoration, actively safeguarding these for future generations.

In contrast, surrounding areas have lost an average of 20,000 ha of forest annually between 2005 and 2010 alone, leading to land degradation, disrupted rainfall, flooding, bush fires, and other extreme weather events. d'Ando Kpomey's community forest has helped buffer these effects by supporting a favourable microclimate.

The village's success has influenced national policy. The Togolese Government, influenced by d'Ando Kpomey's model, revised forest management legislation to support participatory, community based action. In 2014, Togo committed to developing ecovillages to address environmental and climate issues, with d'Ando Kpomey as a pilot village, providing knowledge and models for the Togolese Ecovillage Development programme, supported by UNDP. Today, the programme has extended to nearly thirty villages, with plans to reach 500. The members of the Ecovillage Resilience Community of Practice direct this nation-wide ecovillage development programme, with close ties to d'Ando Kpomey.

2. Conceptual Models of Communities as Social-Ecological Systems

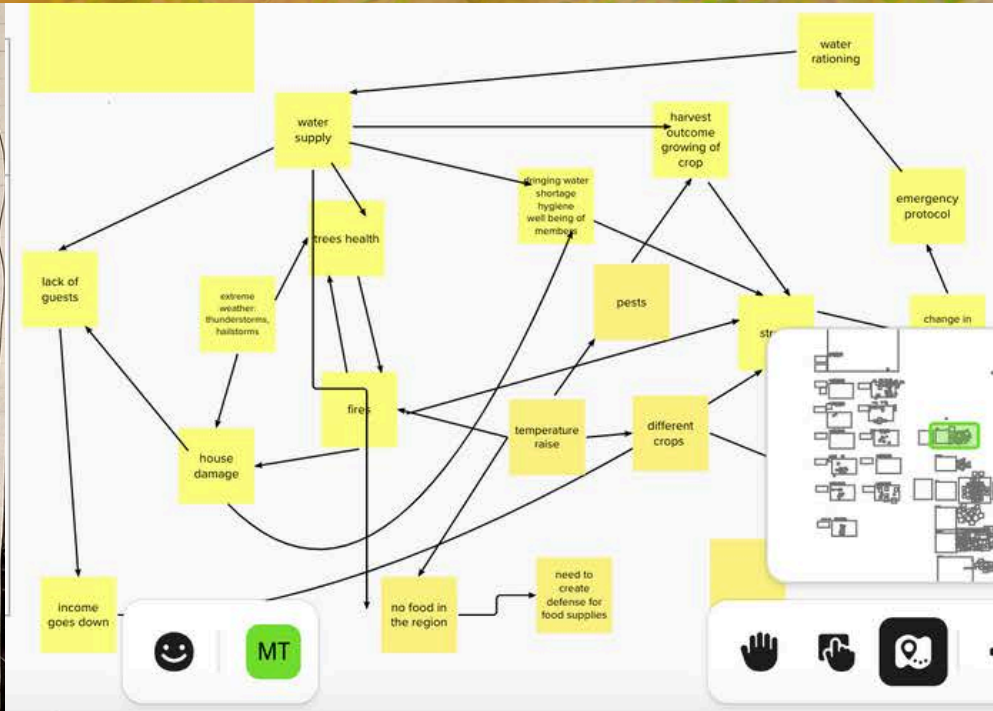
Conceptual system models help to visualise the key components of a system and the ways in which they are connected to one another and how they interact. The development of a system model that integrates social and ecological components, including important linkages and external drivers, can be used to visually explore how the community functions as a whole system. Through the process of drawing these connections, feedback loops may be revealed that enable an understanding of how these feedbacks can accelerate change or help to create balance and stability within the community.

In the resilience assessment process, the social-ecological system model builds on the historical timeline activity by reinforcing a systems perspective and drawing our attention to important dynamics that need to be understood before considering interventions and strategies for building resilience. The models help to introduce relevant systems concepts such as cascading change. For example, climate change interacts with other significant risks including sea level rise and extreme weather events, which can lead to displacement and conflict, which in turn can impact human well-being and aggravate the fragility of states. These cascading impacts can be felt at the community level in the form of security issues and resource scarcity. Going forward in the assessment process, the system models developed by the communities are used to explore some of these impacts through future visioning and the leverage points needed to create positive change in the system.

Each of the conceptual system models developed by the communities is unique and serves to reveal the issues considered to be important to community members as well as other system components that are highly valued, for example some of the issues to emerge included: wildfire risk, growing tourism, the need for good governance, freshwater supply, and people's general health and well-being. Some communities, such as Hundredfold farm, chose to focus their system model on specific themes such as the role of water within the community and in particular, the issue of extreme storms. Their model illustrates how severe storms, driven by climate change, can lead to fallen trees blocking roads and downed power lines, requiring people with skills to clear the trees and do repairs. The process of developing the model led the group to discuss water systems more generally within the community and the water cycles connections to gardening and food production, water policies, forest management, and community member's well-being.

Other communities, such as Keuruu ecovillage, used the opportunity of creating a conceptual model to explore a wider range of issues and to work through the myriad of connections linking structures and processes at broader scales. In these cases, the exercise itself helped to demonstrate the complexity inherent in social-ecological systems.

Examples of Social-Ecological System Models



Below: Keuruu Ecovillage demonstrating multiple relationships held by members

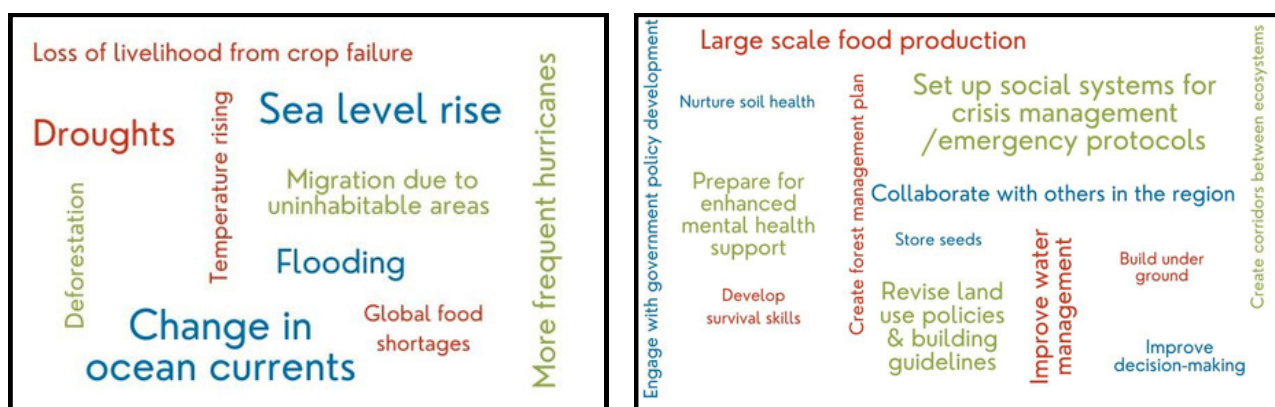


3. Local Thresholds & Global Tipping Points

Communities are a type of complex adaptive system and one thing that all these systems share in common is the potential for non-linear behaviour in response to a threshold being crossed. The concept of a system threshold or tipping point suggests a limit of some sort that once breached can trigger changes that are often abrupt and potentially irreversible, at least within relevant time scales. Knowledge of potential thresholds within a community can be valuable for developing monitoring programs and helping to make decisions to avoid crossing thresholds that might trigger unwanted changes.

At a much larger scale, being aware of global tipping elements and their possible impacts such as collapsing ice sheets, coral reef die-off, or the collapse of the Atlantic Ocean meridional current, can be very difficult to contemplate but having this knowledge and understanding is important for contributing to dialogue and policy action at all levels. The Community-of-Practice learned together about global climate tipping elements and then held workshops within their respective communities to discuss potential local thresholds and opportunities for setting up monitoring programs. The process of collectively learning about and understanding potential thresholds can be an important part of a resilience-building strategy to avoid sudden, undesirable and potentially irreversible change.

Local system thresholds within communities vary widely as a function of the local context. In Bangladesh the BEDS community group was aware of system thresholds related to salinity levels in their soils. They discussed the implications of high salinity levels beyond which native seed varieties would not be tolerant and the community would become reliant on large companies for seeds and other agricultural inputs. A different type of threshold was discussed in Sieben Linden community, in Germany. They identified heat-related stress as a possible threshold that at a certain point could seriously limit people's ability to do productive work and lead to further impacts related to health, conflicts, and challenging people's personal resilience.



Left: Tipping Points identified as having the biggest impact on the communities. Right: How understanding these tipping points will inform community plans and strategies

In describing a possible future for the Earthsong community in New Zealand, they emphasised how their strategic efforts to connect with neighbours surrounding their community helped to catalyse positive change beyond their borders. The following excerpt from the Earthsong future scenario narrative reflects an intentional process of connecting and sharing knowledge and other resources to bring about a more resilient, sustainable and equitable future.

"We are flexible and nimble, the world has difficulties but we are here and thriving in ourselves, we feel connected with each other and our internal well-being and how that impacts on the wider community."

We have influenced people around us, and there is a much more community feel in the wider area; we are not an isolated place, but integrated beautifully with a lot of other innovations and institutions in the wider community.

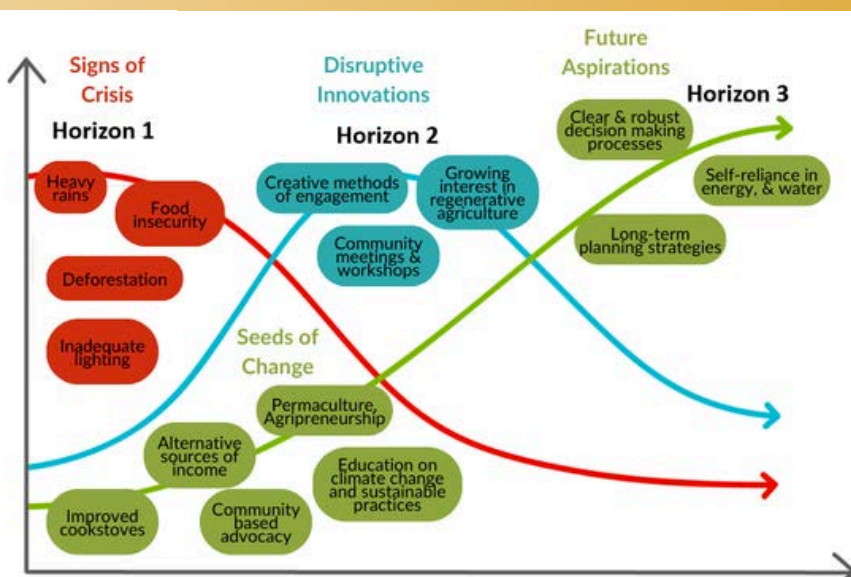
We are a center of optimism, resources and knowledge in the post-carbon world."

-Earthsong Eco-neighbourhood, New Zealand

In their vision of life in 2050, La Tierrita / La Comarca instead focussed on the interconnectedness of humanity and the environment, and the centrality of core values and a commitment to collective work:

"In our way of life, the conservation and improvement of our species and the environment are intrinsically intertwined. Every day, we work together as committed citizens to strike a balance between our needs and respect for the Earth. We share a vision of loving and respecting each other, not only as human beings, but also as custodians of this planet."

- La Tierrita / La Comarca, Uruguay



Left: Example of 3 Horizons mapping from Bomigo Ecovillage. Right: 3 Horizons workshop in Sieben Linden

4.2 Resilience Attributes Tracker

Many different features of communities contribute to their overall general resilience. These features can vary from one place to another, especially in terms of their relative importance or contribution to social-ecological resilience. Such features have been described in resilience literature as properties, principles and attributes and although there may be small differences among different sets, there is sufficient alignment to describe and operationalize this concept. Here we use the term resilience attributes to refer to the features of a social-ecological system that contribute to its general resilience and capacity to respond to a range of possible disturbances, stresses and shocks.

The following resilience attributes were used to develop 31 indicators (approximately 5 for each attribute) of social-ecological resilience at the community level: 1) Diversity, 2) Redundancy, 3) Connectivity & modularity, 4) System feedbacks, 5) Inclusivity & equity, 6) Adaptive learning. This set of resilience attributes is derived from well-established research into different strategies for building resilience in a variety of different contexts.

Indicators of social-ecological resilience can help a community to explore, identify and monitor the specific ways in which its structure, function and practices may enhance or erode its capacities for navigating change. This approach can help reveal resilience-enhancing strengths within a community as well as areas that could benefit from more attention. The value of this type of monitoring tool depends on the input of those who will ultimately use the information, whether it is to seed discussions within their communities or to develop plans and strategies for new ways of doing things.

The “resilience attribute tracker” indicators were co-developed with participants in the CoP across three separate online sessions and using collaborative tools to enable further reflection and commenting between each session. In addition to discussing the indicators, participants were encouraged to reflect on the value of the resilience monitoring tool for their community and different approaches for implementing it within their community.

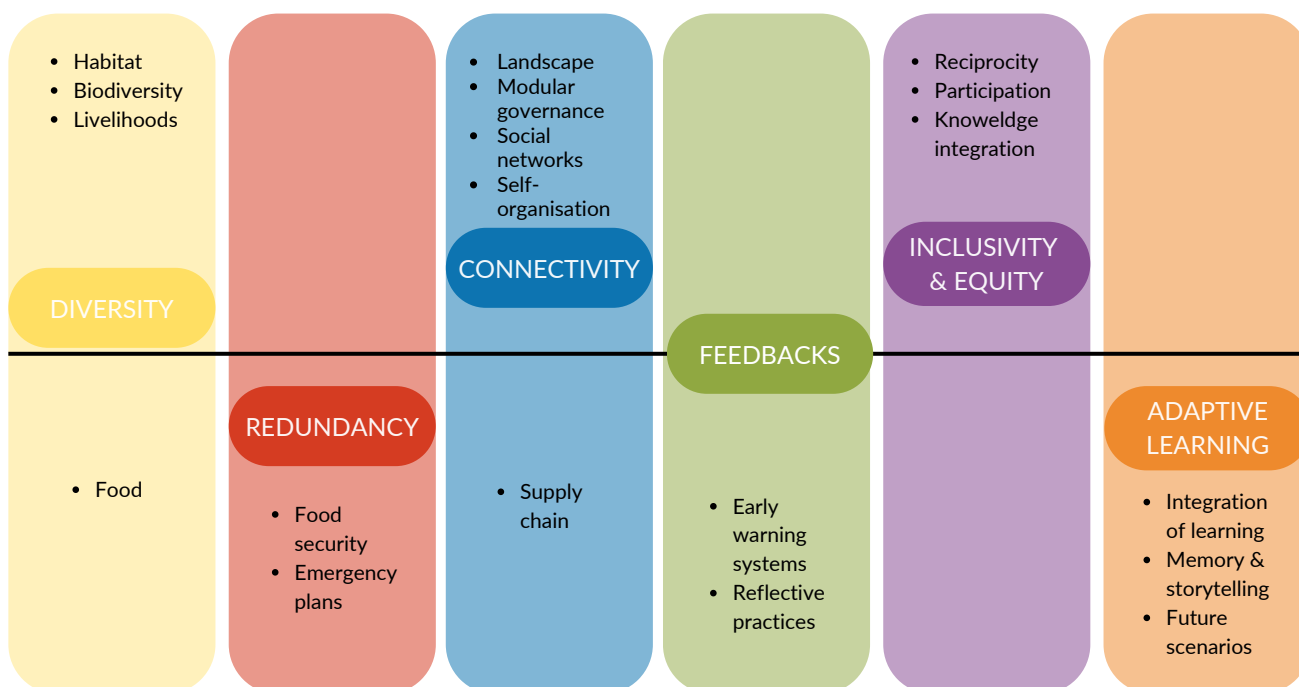
After several rounds of reviewing and testing the indicators including the descriptive text used to distinguish the ranking criteria, the survey was made available in both digital (web-based survey) and print (downloaded pdf) form, in English, French, and Spanish. After this pilot survey was completed, the indicators were also used to create the ‘Community Resilience Companion Cards’; a resource for facilitators, educators and local communities to learn about and map their resilience in local workshops.

Two-thirds of the communities in the CoP completed the survey tool among small groups of participants within their village. Although the results varied among communities, a few patterns emerged across the community of practice.

The attributes with the highest average ranking were Connectivity and Inclusivity & Equity. The indicators that most contributed to a higher score for connectivity included: landscape connectivity, modular governance systems, the strength of social networks and the community's capacity for self-organisation. The main strengths within the Inclusivity and Equity attribute included: reciprocity, participation, and knowledge integration. More detail about how these indicators were defined and ranked can be found in the Community Resilience Tracker available on the GEN website and in appendix A. Diversity within communities was also stronger than average and the specific indicators that contributed most to enhanced diversity included: habitat diversity, biodiversity, and livelihood diversity.

The resilience tracker tool also helped to reveal some weak spots within communities, shining a light on areas where there is an opportunity to enhance and strengthen general resilience. In particular, the system attributes Redundancy and Adaptive Learning received lower average ranks across the communities. The indicators that most contributed to these lower scores included: food security, emergency response plans, integration of learning into planning, memory and storytelling, and the use of future scenarios. Other low ranking indicators highlighting areas of possible concern included food diversity, supply chain connectivity, the presence of early warning systems and reflective practices. Interpreting the outputs and results from the resilience tracker tool is specific to each community and many of the communities have already synthesised their results in reports and have responded by addressing their weak spots. For example, developing early warning systems and connecting to the surrounding region to improve food security and to share knowledge and practices.

The figure below shows strengths and weaknesses among resilience attributes across the communities. Higher ranked indicators above the dashed line and lower ranked resilience indicators below the dashed lines. Only those indicators with a higher or lower average rank are included to highlight strengths and weaknesses.



4.3 Synthesis and Summary of Key Findings of the Social-Ecological Resilience Assessment

- Climate change impacts and social-ecological resilience are unevenly distributed across the Global Ecovillage network and Community of Practice.
- Knowledge of potential climate change impacts and risks is limited and an opportunity exists to better integrate information about projected regional changes into community plans.
- Many of the sustainable practices already in place in the communities contribute to their resilience and are important but these practices alone are insufficient in the context of a +2.5 degree pathway.
- Every community's resilience is inextricably linked to that of neighbouring communities, the surrounding region, and the whole globe.
- An experimental and creative mindset is valued and encouraged within communities and is an asset that can be nurtured and applied to generate novel solutions to adapting and transforming in the face of a global polycrisis and climate change.
- Community cohesion and shared motivation to work together in times of crisis alongside the knowledge of individual skills and capacities is an important strength that would be enhanced by having early warning systems and emergency response protocols in place.
- Diversity and redundancy within food systems appears low across most of the communities, in terms of the diversity of locally produced and sourced food, how much is produced within the community, use of seed banks, and access to regional food supply chains.
- Reciprocity and sharing resources is high within communities and an opportunity exists to develop and expand knowledge and resource sharing both with nearby communities and within the broader global ecovillage network.
- Ecovillages are busy places with a lot of activity and an abundance of ideas for sustainable actions and projects that tend to proceed in an ad hoc way led by motivated individuals, with limited strategic planning that is rooted in evidence and dialogue and identifies priorities and sequencing of actions.

Climate change impacts and social-ecological resilience are unevenly distributed across the Global Ecovillage network and Community of Practice.

Many of the global south communities in particular, are already dealing directly with the effects of climate change and out of necessity, finding ways of coping, developing adaptations, and responding to rapid and sometimes unexpected change. In Govardhan India, the community has responded to the higher frequency of flooding events by mapping areas at risk and using weather data to closely monitor rainfall during the monsoon season and preemptively move property and resources as a temporary response. From Bomigo, Ghana we heard how “the extreme drought destroys our infrastructure and crops which are direct links to livelihoods. And then this causes climate refugees.” Other communities, particularly those with sufficient resources and situated in regions with relatively stronger economies, are more buffered from climate impacts and have more options available. In Boekel, Netherlands, community members report “when we experience drought, we see a lower yield which means more expensive groceries”.

While these different realities and experiences of climate change can be confronting, they also help surface compassion and deepen our collective understanding of the changes underway in ways that might stimulate action and planning while also strengthening a sense of global connection and responsibility. This sentiment was expressed in different ways over many community-of-practice calls and is revealed in comments below.

“I have been wildly, dramatically impacted by having the community of practice calls to join. They inform how I show up in this community. They also humble me and provide spaces to bear witness to the really disparate impacts of climate change around the world. They keep me sensitive and alert, and also provide some fortitude.”

- Devon, Hundredfold Farm, USA

Knowledge of potential climate change impacts and risks is limited and an opportunity exists to better integrate information about projected regional changes into community plans.

Climate risks based on regional projections and the implications of global tipping points, are somewhat understood among the different communities but this information is not always applied to community plans or strategic priorities. There are examples of climate-responsive planning in some communities, such as Earthsong where natural swales were created to help mitigate overland flooding events, and Ecodorp Boekel where houses have been designed and constructed to improve energy efficiency and regulate indoor temperatures during extreme heat events. However, in other communities specific knowledge of regional climate risks is limited or even disregarded for a variety of reasons.



Across the communities there is minimal integration of climate risks into adaptation plans and strategic decision-making. Some of the more slowly-changing impacts such as sea level rise, require long-term thinking for decisions and planning today. Of the 20 communities participating in the project, five are situated in coastal areas. With sea level rise accelerating and expected to continue under all emission scenarios this information, adjusted for regional variation, can be used by communities today to prepare for changes associated with sea level rise. Taking steps to assess coastal vulnerability at the community level can be an important part of such a plan. Strategic community planning informed by the resilience assessment is an important outcome of the project that is already being put into action by some, as evidenced in the comments below.

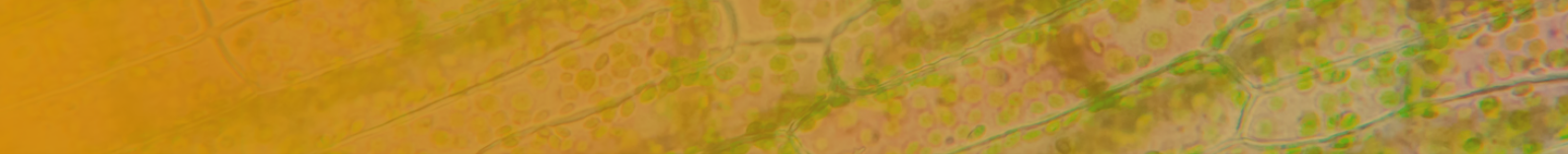
“Immediately following the conclusion of this project, the community has decided to begin long-range strategic planning. The strategic planning period we expect to enter in late spring/early summer will begin with revisiting our vision | mission | values in light of what we’ve learned about ourselves through this project.” - Hundredfold Farm, USA

Many of the sustainable practices already in place in the communities contribute to their resilience and are important but these practices alone are insufficient in the context of a +2.5 degree pathway.

Resilience and sustainability are linked concepts with many complementary aspects but both practically and conceptually, they are not the same thing. Many of the sustainable practices already underway in ecovillage communities, such as regenerative agriculture, energy efficient buildings, and the shared use of e-vehicles, all contribute to the social-ecological resilience of the community but these practices alone do not make the community resilient and responsive to various shocks and stressors, especially those that are possible with 2.5 degrees global warming.

An opportunity exists with the resilience tracker tool and the indicators that were co-developed with the community of practice, to identify potential weak spots and to target actions for building resilience as part of a broader adaptation strategy. Across the communities, the resilience tracker highlighted opportunities for strengthening resilience including: having back-up systems, increasing food security, developing emergency response plans and early warning systems, integrating monitoring data into decision making, shortening and diversifying supply chains, and actively experimenting and using future scenarios to help navigate uncertainty. For some communities the resilience indicators brought into focus specific parts of the system that require attention, such as governance systems in d’Ando Kpomey.

“When we consider the qualities of a desirable future system for our community, we wish to see strengthened governance through improved local institutions and decision-making. There should be sufficient opportunity for leaders and the wider community to reconsider the situation and decide on the best paths forward.” - d’Ando Kpomey, Togo



Every community's resilience is inextricably linked to that of neighbouring communities, the surrounding region, and the whole globe.

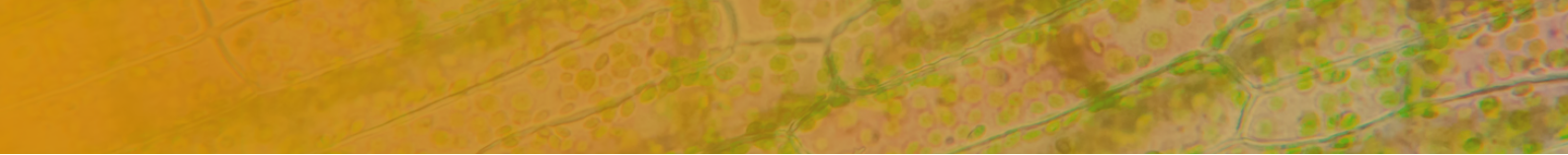
Many ecovillage members recognize that to become more climate resilient they need to actively nurture relationships with surrounding communities and become more connected and invested in regional resilience. Some communities are already pursuing bioregional alliances and actively working to connect with neighbouring communities and regions in a variety of ways. Leading by example the Earthsong community organised a day-long community event to welcome neighbours from the surrounding area to visit and meet community members and learn about all of the sustainable initiatives already in place and those in planning. The event was well attended and provided a valuable opportunity to meet face-to-face with neighbours. In another community, Huehuecoyotl, their participation in a civilian fire brigade also served to connect the community with surrounding neighbours, further strengthening relationships.

“One of the main lessons from the Resilience Project for us was how connected and dependent we are on our whole neighbourhood, our whole suburb, being healthy and flourishing. It was important that we recognized and valued that and actually put more effort into integrating with our wider neighborhood.” - Earthsong, New Zealand

“Unfortunately we have a very weak governance and severe lack of public Fire Fighters. It's mainly up to the people to self-organize to protect our forests and homes. By supporting Civilian Fire Brigades, community organization, and communication platforms, we unite with the neighboring towns so we can act quickly and support each other in prevention and firefighting logistics.” - Huehuecoyotl, Mexico

An experimental and creative mindset is valued and encouraged within communities and is an asset that can be nurtured and applied to generate novel solutions to adapting and transforming in the face of a global polycrisis and climate change.

Having an experimental mindset and nurturing and valuing creativity through art, music, and other modes is a common thread running through most of the communities. This deep appreciation for creativity and its active cultivation is an important capacity that is key to generating novel solutions and adapting ways of doing things. This capacity for creativity was very apparent in the communities' development of future scenario narratives.



In Huehuecoyotl, they described a visit by a reporter to the community in the year 2050, who is delighted to discover a harmonious ecovillage showcasing many practical sustainable initiatives while also weaving in more inventive elements such as alternative currencies, telepathic connections with nature, and a spa with quantum medicine. A storyline that demonstrates a willingness to embrace an open mind and a playful approach to exploring alternative future scenarios.

In another example from the village of d'Ando Kpomey, an experimental and creative mindset comes in the form of youth learning and using new technologies and finding ways to apply these skills in the community.

“Young people in particular are often interested in the possibility of using new technologies or using their creativity to contribute to community events.”

- d'Ando Kpomey, Togo

Community cohesion and shared motivation to work together in times of crisis alongside the knowledge of individual skills and capacities is an important strength that would be enhanced by having early warning systems and emergency response protocols in place.

All of the communities participating in the project referred to a strong capacity to come together in times of crisis. While the Covid pandemic challenged many of the villages and in some cases led to significant changes and resident turnover there remained a strong sense that when the times demanded it people in the community would be there to support one another and to deal with a crisis together. However, despite the reassurance of community support, there appears to be a widespread absence of community-level emergency preparedness in the form of up-to-date emergency response plans and early warning systems to alert community members to imminent threats such as floods, wildfire, severe storms, hurricanes, tsunamis, cyclones, etc.

There are some exceptions such as Damanhur ecovillage in Italy where they have established a protocol for rapid communication throughout the community as part of an emergency response but members admit, the plan could use updating. Another exception is in the coastal communities of Bangladesh where the BEDS ecovillage is located in the Sundarbans. Early warning systems for cyclones are well established there and emergency response plans, which are up-to-date and widely communicated, include emergency shelters. Not surprisingly, in places like the Sundarbans that are at the forefront of climate change, many communities are advanced in their emergency response and as such, are in a position to share what they have learned with other regions.

Diversity and redundancy within food systems appears low across most of the communities, in terms of the diversity of locally produced and sourced food, how much is produced within the community, use of seed banks, and access to regional food supply chains.

Diversity is arguably one of the most important factors contributing to the overall resilience of a social-ecological system. Diversity is key to having multiple options for responding to shocks and stresses, and it also functions as a source for innovation. Diversity within food production systems helps to create balancing feedbacks and is a key component of regenerative agriculture. Communities that grow a diversity of food from seeds adapted to local conditions and that support other local food producers can have a multiplying effect that enhances food security and ecosystem health in ways that benefit both the community as well as the wider region.

Most of the communities reported low to medium diversity of locally-produced food and low to medium food security, based on the presence of alternate food sources and back up food systems. Developing strategies to enhance food production and crop diversity and elevating the goal of local food security should be an important part of strengthening the resilience of all ecovillages.

Within the CoP there are positive examples of communities prioritising and investing in long-term food security in ways that benefit the health and well-being of people and ecosystems. In Govardhan ecovillage in India, a whole-system approach involves farmer training initiatives that contribute to a sense of pride and agency, integrates modern techniques with traditional knowledge, invests in seedbanks and conservation of indigenous crop cultivars alongside other sustainable organic solutions.

In d'Ando Kpomey where food diversity is considered to be high, traditional agricultural practices are labour intensive using rudimentary tools and an increasing use of herbicides. More and more young people in the community are not keen to work in this way and look for other opportunities outside of the community. However, some farmers are working to restore degraded land and adopt practices such as mulching and composting.



Govardhan community member demonstrating a harvesting technique.

The community of La Tierrita, in Uruguay also reported higher food production and crop diversity but overall low food security. Recent challenges with water supply and the slow recharging of groundwater in wells and reservoirs is affecting all aspects of community life. They also report that high pesticide use in industrial agricultural in the region is linked to declining bees and other pollinators. This example demonstrates the need to consider resilience indicators also in relation to one another. The community of Gudza Ramuka articulates this perspective in their own reflections on diversity below.

“We learnt about strength in diversity. A key part of our resilience going forward lies in the diversity of our seeds, crops, trees, food, and animals. We learnt that by diversifying our production system, we benefit from the strengths of each element that we bring into the system. Another important aspect of our resilience is in the localisation of our food system. We have realized that we need to rely more on what is under our control.”

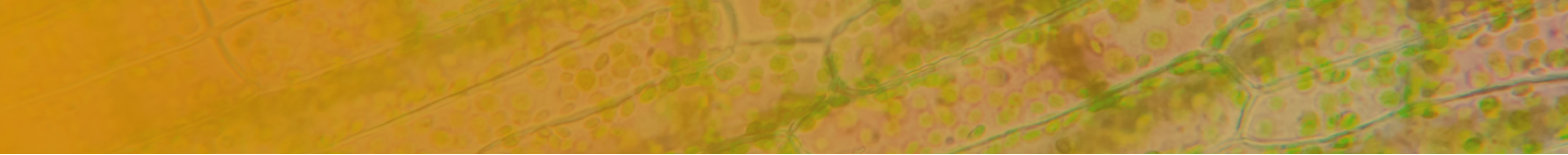
- Gudza Ramuka, Zimbabwe



Members of Gudza Ramuka gather to share seeds

Reciprocity and sharing resources is high within communities and an opportunity exists to develop and expand knowledge and resource sharing with nearby communities and within the broader global ecovillage network.

Sharing and exchanging knowledge, resources, and goods, is a common practice within many ecovillages. As a global network, there is a tremendous opportunity to leverage this core value across scales in a variety of ways both formal and informal (e.g., courses, meetings, celebrations, exchanges, visits, online webinars, and other online platforms). Much of this is already happening but it is possible that an opportunity exists to further enable connections and sharing particularly between north and south communities.



The community of practice discussions frequently sparked fruitful exchanges that reinforced how much there is to learn from one another. As an example, one community commented on their interest in setting up a seed bank and another participant from Govardhan community eagerly shared that they had experimented for some time and were now finding success conserving and storing a wide variety of seeds. This was a pattern repeated frequently. Some communities have experimented more with wealth sharing while others want advice. Some communities are dealing with outward migration while others are trying to put in practice better ways of integrating newcomers. Each phase of the assessment process provided an opportunity through the CoP discussions to share ideas and knowledge and the CoP itself became more than the sum of its parts.

"I felt really engaged during the sessions on the Resilience Attributes and felt a lot of community and connection with peers in the learning journey. There were also a lot of moments of taking in the bigger picture through meeting and hearing stories from ecovillages around the world."

- CoP member

Ecovillages are busy places with a lot of activity and an abundance of ideas for sustainable actions and projects that tend to proceed in an ad hoc way led by motivated individuals, with limited strategic planning that is rooted in evidence and dialogue and identifies priorities and sequencing of actions.

A key objective of any resilience assessment is to better understand issues through a systems lens in order to more effectively guide change through strategic planning and decision making. Part of the process involves simplifying systems to bring to the surface the main components and relationships that require attention, as was done by developing conceptual models, and learning about system dynamics to identify where leverage points exist. The idea of leverage points is that a relatively small effort can lead to more significant change. Efforts to intervene and create change have a higher likelihood of succeeding when they are evidence-based and part of a strategic plan that is informed by stakeholder, in this case community members, input and support.

"There is already so much that is being done on The Farm; so much happening; and so many efforts being made to improve and add to the community in one way or another. So we both need to figure out how to follow up more effectively with existing and on-going projects and we need to keep this in mind as we plan for and begin to initiate new projects."

- The Farm, USA

5. DEEPENING PERSONAL AND INTERPERSONAL RESILIENCE

5.1 Community Workshops

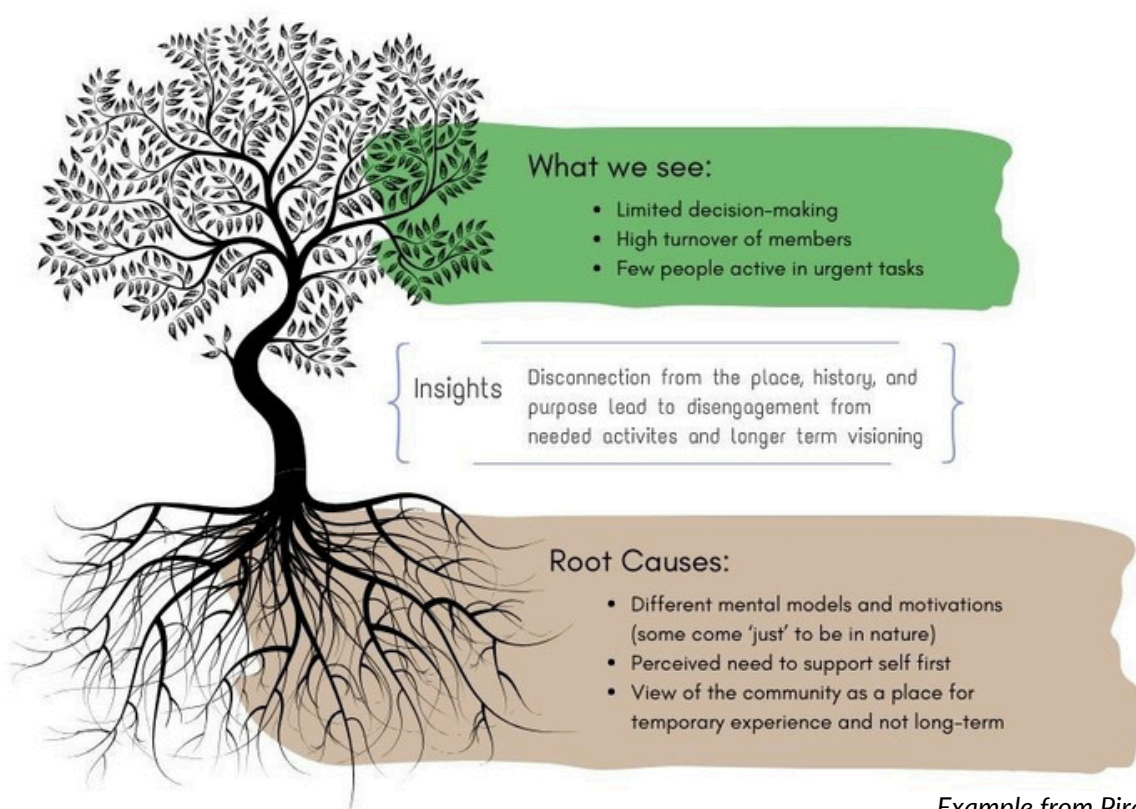
1. The Tree Model
2. Practices for personal and interpersonal resilience
3. Deepening connection with land
4. Tending to hidden dynamics - Systems sensing
5. Mapping and Developing Abilities to be with Climate Change and Polycrisis

1. The Tree Model

The tree model is based on an exercise in the systems thinking framework of Donella Meadows. It suggests that beneath the visible levels of events and crises, there are underlying structures and processes, mindsets and paradigms of thought, and root causes that all shape and inform the layers above. The deeper layers of a system are often not visible or in our collective awareness. In order to create change we need a way to slow down and excavate the more hidden aspects that may underpin a certain situation, including any present symptoms, responses and events. The model helps shine a light on the implicit storylines that may have led to or generated an issue, event or dynamic. These storylines can reach back decades and centuries – meaning the root causes are easily forgotten. One example comes from Ubuntu - Islas Rosario, an Afrocaribbean community descended from slavery, where one participant said “the right to dream was taken away from us blacks, maybe that's why it's so hard for us to plan”.

By making root causes visible and creating a shared narrative, people are able to both understand and create a sense of compassion and acceptance for the current reality, and address present issues more effectively. One example comes from Atlan, where participants discussed a pattern of having harsh winters and fires in summer, with root causes being excessive logging disrupting climate and water cycles, enabled by an extractive legal system rooted in the trauma of empire and colonisation. They were surprised at the varying levels of knowledge or awareness of these root causes within their membership.

Through this activity, it became clear that ecovillages face interconnected challenges such as environmental degradation (like deforestation and sand mining) which often exacerbates social issues (like community cohesion or cultural preservation) and economic challenges (such as sustainable livelihoods and infrastructure maintenance). Key issues that surfaced include: food production, deforestation, drought, fires, and floods. For example, Huehucoyotl identified their need for in-house administration, leadership and management of their communal gardens, and found root causes behind the visible challenges of uncertain leadership and low production of their food cultivation. Earthsong identified the root causes of the flooding they experienced in 2023, as anthropocentric attitudes that have led to the overexploitation of natural resources and environmental degradation.



Example from Piracanga



Gathering at the BEDS ecovillage project in the Sundarbans, Bangladesh

Ecovillage Snapshot: Ecovila Piracanga

As a developing community, Piracanga Ecovillage integrates ecological sustainability with personal and spiritual development. Their model for harmonious living emphasises the importance of this balance, fostering an environment where individuals can grow. Since its creation in 2011, the community has considered itself a living organism, breathing in self-knowledge and breathing out consciousness. With 180 residents, including 40 children, they welcome thousands of visitors every year.

Located 250 km from the state capital, Salvador, Piracanga is in a rural and coastal region, in an environmental protection area, and close to tourist destinations. The Atlantic ocean, beach, river, and mangroves are extensions of their home. Applying permaculture principles, the community produces a significant portion of their food and builds structures with locally-sourced, natural materials. These buildings are energy-efficient, and benefit from solar panels, while still blending seamlessly with the landscape.

Piracanga is home to an inclusive and diverse international population of residents and visitors. This enriches the community, bringing perspectives and traditions that contribute to its vibrant social fabric. Visitors can participate in a range of workshops, retreats, and therapies focused on personal development, spirituality, and sustainable living.



There is a palpable culture of mutual support and shared responsibility with constant reminders of the values of mindfulness, cooperation, and a deep connection to nature. Through their non-profit association, A.Mor, they strive to defend and promote the social, environmental, legal, economic, spiritual and governance interests of Piracanga Ecovillage. This collective raises the quality of life in Piracanga and facilitates self-management to deal with daily demands.

In addition, the community runs Inkiri School which educates children according to holistic principles. The curriculum integrates academic learning with ecological and spiritual education, with a focus on project based learning. The Ministry of Education recognized it as an innovation in education in Brazil. For adults, the School of Nature nurtures regenerative culture through courses and community experiences. Many of the projects that were driven through the community have become autonomous, with small groups managing them.

Piracanga is a living laboratory of social, ecological, educational, artistic, economic, and spiritual technologies. After years of maturing and gaining complexity, the ecovillage has undergone processes of profound transformations, where new forms of management and organisation are still taking shape. The environmental agreements and care and the intention to remain a place of individual and planetary transformation are still alive and gaining new scales.



2. Practices for Personal & Interpersonal Resilience

Research indicates that a community's ability to express emotions collectively and provide mutual support during crises significantly influences their resilience in facing subsequent threats. This underscores the role of both personal and interpersonal resilience in navigating challenges like climate change and polycrisis. This session and local workshop thus delved deeper into the following questions:

- How do you currently deal with crisis or intense or challenging situations and emotions as an individual and as a community?
- What are your personal and your community's shared practices and approaches to fostering personal / interpersonal resilience?
- Do you see any weaknesses or areas where you as a person and/or a community need to learn or grow more ability for personal and interpersonal resilience?
- What do you see currently as your community's main strengths in fostering personal and interpersonal resilience?

This mapping opened a space for peer to peer learning and sharing. It also served to prepare for the next stage of the resilience assessment process - exploring thresholds and tipping points. By connecting participants and ecovillages with their own already existing practices it aimed to build a safer container for going deeper into the far-reaching and devastating potential impacts of climate change and polycrisis.

26 participants representing 17 communities provided feedback on their findings. Our exploration revealed commonalities and distinctions in how individuals and communities handle crises, highlighting the diversity shaped by factors such as geographical location, culture, and historical context.

"I have a number of coping strategies to draw from, depending on the nature of the crisis or challenge. I turn to music-making when something needs to be felt and expressed in order to move through my system."

- Hundredfold Farm, USA

The community of Islas del Rosario is an Afro Colombian community descendants of the slavery with a history of vulnerability, racism, displacement and several difficult situations. All of this history and context makes this community highly adaptable."

- Centro Ubuntu Isla del Rosario, Colombia

"In moments of fear, under pressure and stress it is difficult not to bring old patterns and fall in the old paradigm."

- La Tierrita / La Comarca, Uruguay

3. Deepening Connection with Land

Connecting with land involves establishing an active and meaningful relationship with local ecosystems and the more than human world. Beyond connecting us to the only actual source of sustenance and health on the planet, it has the potential to inspire stewardship and provide a deeper sense of meaning, belonging and love as well as emotional solace and psychological strength. Connecting with land can give rise to a wide range of emotions, from grief at what is or has been lost, to gratitude for all the gifts given. As with human relationships, not tending to the many layers of relating has a negative impact on our sense of intimacy and connection, leading to less attention, care, and resilience.

Local workshops invited participants on an introspective and explorative journey of the lands of their communities through different means, such as silent walking, speaking about the land with an elder, researching its history, and sharing with each other. Ecovillagers were encouraged to sense and listen to any messages in and from the land, and any feelings associated with it. Participants co-created a small ritual to acknowledge any feelings and stories of loss and grief that came up in the sensing and sharing, such as loss of people and natural habitat or related to the history of their land and peoples, and to celebrate anything that came up, such land as a source of joy, resilience, inspiration, awe and wonder, a sense of achievement, gratitude and appreciation. The communities also reported on their existing practices for connecting with land. Many participants shared that their personal and communal lives are deeply intertwined with practices and rituals centred around land. For numerous communities, this connection with the land is pivotal and a primary motivation for choosing to live collectively on it.





4. Tending to Hidden Dynamics - Systems Sensing

Many ways of coping with shocks, challenging feelings, and social dynamics arise when we face climate change and polycrisis. These can be conscious or unconscious - clear to see and make choices about, or more hidden. Having practices, abilities and a way of noticing and speaking about these reactions are important for personal and interpersonal resilience and the ability to work towards thriving communities together.

The activity of systems sensing was introduced as a way to use embodiment to connect with more unspoken or hidden dynamics, feelings and aspects that need to be acknowledged or integrated to move coherently towards wiser action. This awareness practice deepens the exploration of systems by adding a layer of information perceived through the felt senses and intuition, integrating other ways of knowing. As a practice, it can also foster deeper empathy and compassion towards individual and collective circumstances, as we practise putting ourselves in the shoes of another - including into the perspective of nature as a stakeholder and base for all life.

"I discovered that my sense of disassociation with the community's social system was rooted in my desire to protect the ecological systems. The exercise brought forth my sense of purpose in both systems through increasing empathy and understanding. The community has realized a sense of responsibility for the sand mining issue. Many feel anger for the many failed attempts of reconciliation with the community and its ecological resources. Through the exercise, the community learnt that despite the differing emotions and experience, there's a common goal in existence, and it can't be achieved without collaboration within the whole system."

- People's Coast Ecovillage Network, Gambia

In the systems sensing activity, we asked individuals first to think about a key topic or issue from all previous project activities that might need care and focus, and any hidden pain in the system that is becoming more visible. Participants were then encouraged to in their imagination and by moving themselves through space and stepping into areas symbolising different elements, visit different parts of their community system. The parts included themselves, the community, the land, one of the issues they are facing and a resource that could support them.

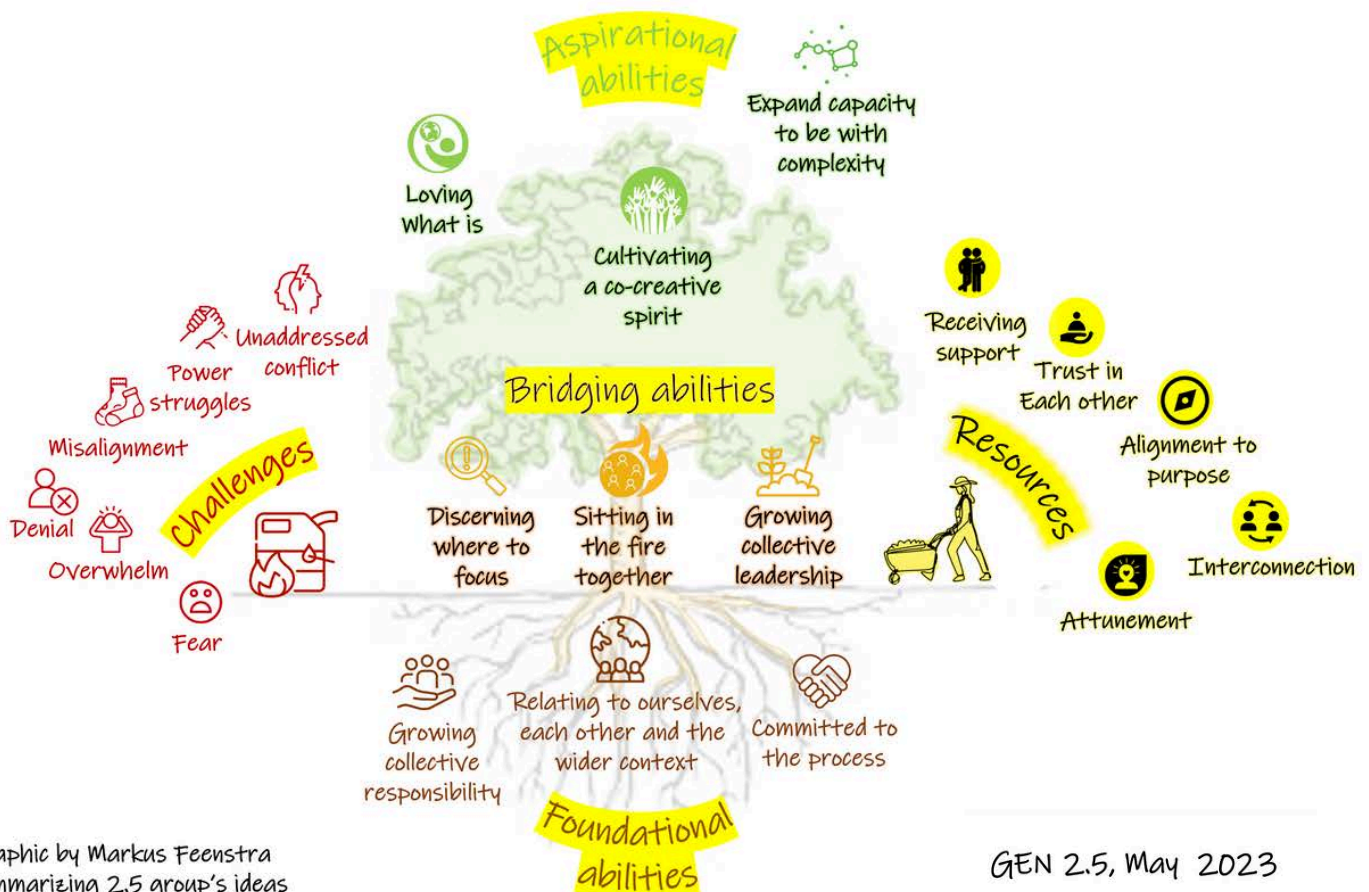


5. Mapping and Developing Abilities to be with Climate Change and Polycrisis

This session and local workshop explored an interactive mapping exercise for identifying abilities and skills for building personal and interpersonal resilience narratives. It also gave space for conversation about tipping points and potential threats to each ecovillage, and for sharing about the realities of climate change. Learning to map and track abilities is a way to enhance the capacity to communicate, learn, and share with others about navigating crises. It also sets us up for tracking and consciously developing key abilities in the future.

In local workshops, participants together identified key abilities or inner aptitudes for navigating polycrisis that are already present in the community, abilities and aptitudes that they aspire to, and ones that can help them get there. They also discussed how to cultivate and strengthen these abilities, what key challenges for doing so could be, and identified indicators of success. From these elements, each ecovillage created their abilities narrative.

Below: Example of mapped Abilities, Resources and Challenges at Earthsong Eco Neighbourhood



Graphic by Markus Feenstra
summarizing 2.5 group's ideas

GEN 2.5, May 2023

5.2 Key Findings from the Exploration of Personal and Interpersonal Resilience

- Personal and interpersonal resilience are built by continually choosing to tend to relationships and adopt practices that address key issues both internally and in social relationships
- Actively nurturing trust and ongoingly improving skills in communication and governance are vital areas of focus for interpersonal resilience
- Strong social cohesion, community spirit and capacity for collective action are key aspects of interpersonal resilience that ecovillages consciously nurture
- Ecovillages are skilled at creative and collective problem-solving
- Past crises have so far tended to bring communities closer together
- Prioritising connection to nature, nature conservation, and regenerative practices are central for how ecovillagers understand their own resilience
- Cultural and spiritual practices and beliefs play an important role in fostering both inner resilience, ecosystem stewardship and community cohesion

Several, but not all, of the themes correspond with strengths identified in the assessment of social ecological resilience of ecovillages to climate change, possibly indicating that ecovillages are quite aware of their own strengths

“Recognizing what has been important in the story of each community is a process that can transform and create new realities. It has also been very challenging because when you look in detail at the situation of the world, the pain of the climate situation is strong. Yet we can gain a new power and hope when we have tools to visualize different futures.”

-Margarita Zethelius , Centro Ubuntu Islas del Rosario, Colombia



Personal and interpersonal resilience are built by continually choosing to tend to relationships and adopt practices that address key issues both internally and in social relationships

In the mapping and in conversation during CoP calls, several areas were highlighted as both strengths and potential weaknesses, or mentioned as areas that participants need to ongoingly pay attention to. Problems with for example social cohesion, trust, communication and governance quickly decrease the capacity of each community to live well together and work effectively towards shared goals. This is well known to ecovillages, and consciously experimenting with and implementing practices in these areas are central to the ecovillage model. In conversation within the CoP, it was clear that communities still struggle with breakdowns in communication, occasional lack of participation in collective projects, periods of overwhelm, unaddressed conflicts, getting bogged down in inefficient governance, stumbling on issues of rank and power, and feeling the need for more clarity around shared intentions and values. It is perhaps fair to say, therefore, that these are areas that ecovillages know are vital to their functioning and wellbeing, have a strong focus on and many practices for, but nevertheless are constantly working to maintain or improve. They are strengths because they are muscles that are used frequently. While many people who live in ecovillages share core values that make it easier, having high trust, strong social cohesion, and the ability to work together to reach common goals require practice and dedication. One of the biggest challenges a community can have is when members stop making the effort.

Actively nurturing trust and ongoingly improving communication and governance is vital for resilience

Building and maintaining trust, coupled with clear and open communication channels, are seen as foundational for effective community governance, decision-making, and conflict resolution. Ecovillages also emphasise communication as a key aspect of dealing with crises and strong emotions, and recognise the importance of addressing emotional responses to environmental and social challenges as a way to nurture trust and resilience. Several also note that both communication and inclusive self-governance can be challenging and require training, dedication and ongoing practice.

- Having communication agreements and common ground rules, clear decision-making processes, effective teamwork, flexible organisational structures and proactive policy development to address community needs and challenges are key abilities to nurture.
- Coming together to dialogue, share, listen, and value and empathise with each other's dreams, struggles, grief, and perspectives are crucial for fostering resilience and promoting positive community dynamics.
- Conducting workshops and practising skills collectively increase effectiveness and shared understanding, and the habit of doing so can be leveraged for learning new collective skills and capacities.



“Our decision making system Holarchy helps us to react fast and be flexible. I find that helps me in my personal resilience. We have monthly events to share, to come together, to have fun and relax. We also have processes to help solve conflicts.”

- Boekel Ecovillage, Netherlands

“Some of our strengths are our Common Ground agreements, and that we meditate, worship, and celebrate together, have community dinners, and a constant flow of workshops, programs and events.”

- Ecovillage Findhorn, Scotland

Strong social cohesion, community spirit and capacity for collective action are strengths of ecovillages

- Community members come together often for meetings, shared meals, celebration and other social and cultural events to strengthen community bonds.
- Having a shared purpose based on environmental and social regeneration and sharing core values of love, gratitude, celebration and respect for each other are central for maintaining social cohesion, community spirit and capacity for collective action.
- The ability to assume individual & collective responsibility for community & ecological well-being are seen as foundational in building collective capacity to act & respond.

Collectively learning about, prioritising, and balancing both social-ecological and inner resilience to climate change, and having agreed-upon processes, standards and goals for resilient behaviour was highlighted as an area of development that would support ecovillages to better channel this strength towards increasing resilience.

Participants pointed out that social cohesion and capacity for collective action are things that have to be nurtured. Building strong relationships is ongoing work that requires dedication and energy, especially when many new members join. It is also important to cultivate more self-awareness to not let fear and stress trigger old patterns and behaviours, and to work on increasing awareness of power, rank and group dynamics to be able to work well together. In some communities personal development and training is needed for members to have confidence in their own potential and qualities to meet the various challenges facing the community.

“Our main strengths in fostering personal and interpersonal resilience is our shared vision of environmental and social sustainability. The relationships which have grown over years while coping with serious challenges, ultimately resulting in our beautiful neighbourhood. The culture we have built of how we relate to each other and what we collectively value.”

- Earthsong Eco-Neighbourhood, New Zealand

Ecovillages are skilled at creative and collective problem-solving

With high social cohesion and community spirit comes creative and collective problem solving, which is another strength that ecovillages rely on and that often allow them to achieve new things and overcome obstacles. As the findings of the resilience assessment shows, it is important to both leverage this strength, and to not let overconfidence in it lead to insufficient planning and preparedness, which is a current tendency. Knowing that you live in a strong social network able to quickly respond and come together is, however, a great source of personal and interpersonal resilience.

- Special focus groups, conflict resolution teams, and community processes quickly form to address challenges.
- While ecovillages tend to lack clear emergency protocols, successful initiatives are often developed autonomously by community members when needed.
- The capacity to come together fast to creatively respond to emergencies together is a key ability to nurture, as is maintaining a solutions-focused approach.

A strength in our ecovillage is “having the certainty that we can solve the problems that arise. We stay together as a community and will find answers” - Sieben Linden, Germany

“The thing that we have for real is each one of us, the really big heart, the social structure, the ability to make decisions, to go through difficult times together.”

- CASA Latina



Meeting at Aldea Feliz ecovillage, Colombia



Past crises have so far tended to bring communities closer together

Most communities report that so far, living through crises have fostered greater interconnectedness, support, and solidarity. This memory and knowledge can be drawn upon as a source of personal and interpersonal resilience to build a sense of capacity and skill in facing adversity together. There is also room for more knowledge exchange with those ecovillages who have experienced disasters, to share more about what they have learnt and what helped them navigate well together.

- Traditional ecovillages are often by necessity already experienced at adapting to adversity and rapidly changing conditions, and have key skills to share
- Traditional ecovillages emphasise the use of songs, storytelling and conversations to recover from the loss of members and provide support during material losses.

“Strong community ties and support networks got us through the toughest moments of government pressure when they wanted to remove the community from our ancestral territory, many causes, organizations and people came together to fight for the right to participation, territory, autonomy, identity, and own development.”

- Centro Ubuntu Islas del Rosario, Colombia

“Crisis mostly brings us together as a community. We develop more interconnectedness and solidarity when we are under crisis and pressure. We meet together, we hear everyone and share how everyone is reacting to the crisis to build a collective response.”

- La Tierrita/La Comarca, Uruguaya

Prioritising connection to nature, nature conservation, and regenerative practices are central for how ecovillagers understand their own resilience

Centering connection to nature, ecosystem restoration, and regenerative ways of meeting human needs is a core ambition and practice of ecovillages which brings people together and contributes to their individual and collective sense of being resilient. Living in more vibrant and productive ecosystems also has an effect on community members, who have greater direct access to necessary resources like clean water, food, and natural beauty. Beyond physical nourishment, it is a source of inner resilience to know where food and water come from, and to live with a sense of increasing health, beauty, and abundance.

- Communities use a wide range of approaches, from organic farming to spiritual rituals, to deepen their relationship with the land.
- Working directly with the land through activities like gardening, planting, rewilding, and participating in community development projects is a common way of nurturing personal, interpersonal and social-ecological resilience.

"We try to use a lot of ecosystem services in a way that strengthens them. Our houses are still in a construction phase, so we need to be patient before we have a balanced ecosystem."
- Ecodorp Boekel, Netherlands

"Connecting with nature is a daily practice for me, I choose to live very close to nature and I observe and ask for feedback from the non-human realm."
- La Tierrita/La Comarca, Uruguay

Cultural and spiritual practices and beliefs play an important role in fostering both ecosystem stewardship and community cohesion

Shared rituals and cultural and creative practices contribute significantly to community cohesion and resilience in the face of challenges, and also play a role for how ecovillagers acknowledge and process adversity and grief, including climate grief. Rapidly losing traditional practices and beliefs is a strong threat to social-ecological resilience identified by traditional ecovillages.

- Traditional communities often prioritise revitalising or safeguarding practices and beliefs that affirm their historical ties to the land and support resilient practices for stewarding land and resources.
- Other ecovillages engage in deep ecology practices that encourage a profound and spiritual connection with the natural world.

"A ritual we share since we arrived to this land is to sing to the water. The creek in the community is our sacred space, and when we arrived it was very contaminated. We worked hard to clean it and raise awareness about caring for it in the neighbourhood, and we always blended the hard physical work with spiritual work, relating with the spirit of the water." - CoP Member

"When we celebrate, we gain as a community; we remind ourselves that we are happier together and it's that togetherness that builds the community we want for ourselves and for future generations." - People's Coast Ecovillage Network



6. GOING FORWARD - AN ECOVILLAGE THAT IS BOTH REGENERATIVE AND RESILIENT?

6.1 Revisiting the Ecovillage Model from a Resilience Perspective

How would the ecovillage model and map of regeneration change, if we integrated what we are learning about the resilience of current ecovillages to a +2.5 degree climate change scenario? The resilience assessment and exploration of personal and interpersonal resilience give some direction. To explore the question further, we also returned to the ecovillage model, placing the ecovillage map of regeneration with its 32 principles for ecovillage design and good practice, next to the resilience attributes tracker and indicators developed together with the Community of Practice. Tracing how these map onto each other - or not - let us surface areas where model practices in ecovillages already contribute to social-ecological resilience, areas where the ecovillage model is lacking key elements of resilience, and areas where the ecovillage model goes beyond the indicators based on attributes of social ecological resilience. Together with the findings from the resilience assessment and exploration of personal and interpersonal resilience, this will form the basis of a new and updated core pattern for ecovillages and GEN.



Local project teams, activities and workshops

When sustainable is also resilient - areas where the ecovillage model is easily translated into indicators for social-ecological resilience

One key finding in the resilience assessment is that while the many sustainable practices in ecovillages contribute to resilience, they are not enough in a +2.5 degree scenario. They are, however, still interesting, point to ecovillage strengths, and can be expanded, leveraged and built on, whether to deepen community resilience, extend beyond the boundaries of the ecovillage to work for regional resilience, or for developing new resilient practices and habits. Below is a list of practices that are easy to cross reference, meaning they show up in both as indicators and resilience, and as ecovillage principles: .

- Creating community owned/controlled and appropriate (in the sense of both context and technology) systems for renewable energy
- Engaging in and supporting local food production through regenerative agriculture
- Building strong social relationships, institutions and networks through practices for conflict resolution, self-organisation, collaborative governance, active participation and growing trust
- Having a strong focus on and practices for reciprocity, mutuality, and sharing resources
- Creating cultures with a deep sense of shared purpose, collective agency and commitment
- Fostering a sense and lived expression of interdependence, nature connection and practices that mutually benefit all life
- Promoting the importance of personal growth, transformation, reflection and feedback as necessary elements of social-ecological transformation and successful community life
- Creating cultures where active experimentation is widespread and contributes to learning, strength of purpose and social connection, rather than pose a threat to the status quo
- Respecting local traditions and indigenous / traditional ecological knowledge as important elements of creating place-based and locally appropriate sustainable living

From sustainable to resilient - Areas where the ecovillage model is missing elements of resilience

These are areas where indicators for resilience lack corresponding ecovillage principles, and where the ecovillage model needs to expand for communities to be better prepared and set up to navigate polycrisis while continuing their important work for regeneration and social transformation. Here is how the ecovillage model needs to change, for all indicators of social-ecological resilience to be integrated:

- Add fully functioning backups for key systems - such as renewable energy, water and other key infrastructure, as well as for the skill sets needed to run and continue running all aspects of the community.
- Move from education for sustainable development to adaptive learning for regeneration and resilience. Emphasise shared and more systematised learning and experimentation as a vital addition to educating others and simply being experiments.
- Prioritise food security through increasing local food production and localising and diversifying supply chains. Supply chains for materials and goods also need attention.
- Improve attention to ecosystem connectedness and the importance of having ecological corridors through which plant and animal life can move.
- Put in place and clearly communicate early warning systems through which information reaches everyone in time for them to take action to protect themselves and other people, their assets, and livelihoods in case of disaster.
- Have and regularly review emergency response plans to ensure access to shelter, communications, water and food in case of emergency.
- Implement shared monitoring systems and build capacity to more actively track and integrate changes and ongoing trends in the direction, health and integrity of social-ecological systems.
- Enhance practices for people, institutions and governance groups to actively integrate data from monitoring, and manage risk through scenario planning and taking into account multiple pathways to the future.

In more detail, there are four main areas of community resilience indicators that stand out as weakly represented or missing in the ecovillage principles.

Redundancy and diversity

The ecovillage model includes a strong focus on sustainable practices for accessing, distributing and treating water, ecosystem restoration, and community-scale renewable energy. The idea of having backup systems, multiple access points, or many types of ecosystems however, is a new point of intention and better, more resilient, design. Similarly, while local food production is an important element of the ecovillage model, conscious effort to increase food security through a diversity of crops and local and regional supply options was not explicitly stated as a principle of ecovillage design. Ecovillage principles for the economic area did not include explicit focus on having a diversity of local livelihoods as well as insurance, social safety nets, and shared savings, showing a lack of awareness of how to mitigate financial risk. Finally, emergency response plans have so far not been mentioned in the ecovillage model.

Balancing connectivity - ecosystems and supply chains

While restoring ecosystems and biodiversity is a key focus for many ecovillages, and a key principle in the area of ecology, there has been little explicit attention paid to landscape connectedness and its importance for resilience. Looking at supply chains, while ecovillages themselves often have strong practices for local production and consumption, the ecovillage principles only mentioned responsible production, consumption and trade without specifying the importance of regional trade and local production of food, goods and materials in order to shorten and diversify supply chains.

Adaptive learning and system feedbacks

While listening to feedback in general is an ecovillage principle in the area of design, there is no explicit mention of prioritising and developing skills and capacity for monitoring trends and ongoing changes, and having in place early warning systems. Related to this is the realisation that to be resilient, it is not enough for governance and social institutions to be fair, accountable, transparent and decentralised. They also need to be skilled in integrating up to date monitoring information, using targeted experimentation, and using future scenarios for managing risk and navigating uncertainty.



Visit to an organic farm in Auroville, India, and an array of solar cookers in Guédé Chantier, Senegal

More than social-ecological resilience - where the ecovillage model goes beyond

There are several areas of ecovillage practice that are not directly reflected in the indicators for social-ecological resilience and the community level. These are, however, not practices that make ecovillages less resilient. Many of these instead reflect the ecovillage ambition to fundamentally redesign human societies, meet human needs in regenerative ways, and to explicitly distance themselves from the current economical, social and political systems and cultural beliefs that are driving the polycrisis.

These include:

- The importance of art, celebration and ceremony for personal and collective resilience and to regulate human relationships with the ecosystem
- Transforming the economic system through fundamentally reimagining wealth, work and progress, committing to responsible consumption, production and trade, choosing financial institutions and currencies that strengthen both communities and nature, and ensuring equitable ownership and access to land and resources, which is a key indicator of ecovillage success and longevity
- Creating democratically controlled and regenerative human settlements - whether its water management to clean and replenish water sources, green building, appropriate technology, community-owned renewables or circular waste treatment, to explicitly base human habitats on interfacing positively with local ecosystems in terms of watercycles, resource flows, and building materials is a strength and core focus of ecovillages.
- Caring for the whole as in working towards ensuring the health and wellbeing of all, actively protecting and defending communities and nature, and building alliances and collaborations across divides.
- Sharing learning and practices widely through open sharing of learnings and solutions, and ensuring equal and lifelong access to education for regeneration.

It is worth noting that three of these areas are also highlighted in the mapping of personal and interpersonal resilience and practices in ecovillages - the importance of art, celebration of ceremony, having values and capacity to care for the whole, and the importance of self-governed human communities that interface positively with the more than human world and ecosystems they are part of. Rather than principles to step away from, these areas of practice and action are part of the dream, wider contribution, founding ethos, and inner strength of ecovillages. As such, they should be nurtured and leveraged as ecovillages step into the future.

6.2 Recommendations for Ecovillages

Based on the resilience assessment, mapping of personal and interpersonal resilience, and the analysis of the ecovillage model, we find several recurring themes that provide strong guidance for ecovillages and GEN in where to place our focus next. Looking at existing strengths, knowledge gaps, and important gaps in resilience, we see a path forward where ecovillages...

Leverage strengths like...

- Sustainable living practices for meeting human needs in ecologically sensitive and locally appropriate ways
- Knowing how to prioritise, encourage and put in place practices and habits that enhance trust and social cohesion
- Having a strong sense of collective agency and willingness to work together
- Nurturing an experimental mindset and willingness to try new things and do new projects together
- Having a strong ethic of reciprocity and sharing - of skills, goods, resources and wealth
- Centering ecosystem stewardship and connection in local culture, activities and practice
- Navigating via shared purpose and values that emphasise social and ecological wellbeing and care
- Training and practising key skills like communication and conflict resolution, and adding new skills as needed
- Capacity to individually and collectively assume responsibility for social and ecological systems and mutual wellbeing
- Valuing both traditional and innovative practices that nurture a sense of interdependence with nature and contribute to ecosystem stewardship and resilience
- Understanding the value of creative expression, spiritual beliefs, celebration and ceremony for human wellbeing, personal and interpersonal resilience, social cohesion, and ecosystem stewardship.

To learn more about...

- The potential impacts and risk of climate change regionally, and how global systems-dynamics, risks and tipping points translate to and may shape local futures
- Each community's changing strengths and weaknesses, through for example using the Community Resilience Tracker
- The skills, solutions and ways of approaching resilience to climate change and polycrisis in other communities around the world - to foster broader understanding of climate change dynamics as well as empathy and solidarity, but also to exchange good practice, fill vital gaps, and learn from communities that are already facing what others will soon be living through as well.



And develop more capacity, skills and practices for...

- Having fully functioning back-ups for key systems such as water, energy and other important infrastructure
- Rapidly increasing food security by growing a diversity of food and seeds adapted to local conditions, aiming to produce 50% of the food the community eats, use local sources to supplement, and have access to regional food supply chains
- Shortening and diversifying supply chains by producing and sourcing many goods and raw materials locally or regionally, and having cooperative approaches to purchasing
- Improving attention to ecosystem connectedness and the importance of having pathways through which plant and animal life can move
- Putting in place early warning systems through which information reaches everyone in time for them to take action to protect themselves and other people, their assets, and livelihoods in case of disaster
- Having and regularly reviewing emergency response plans that ensure access to shelter, communications, water and food in case of emergency
- Implementing locally appropriate shared monitoring systems that enable the community to track changes and ongoing trends in the direction, health and integrity of social-ecological system
- Building skills and practices to actively integrate data from monitoring, plan strategically in deep uncertainty, and manage risk across multiple pathways to the future
- Emphasising shared and systematised learning and experimentation as a vital tools for navigating uncertainty
- Building stronger regional relationships to work together - realising that every community's resilience is inextricably linked to that of neighbouring communities, the surrounding region, and the whole globe.

All to keep working for the collective dream at the heart of the ecovillage movement while also navigating climate change and polycrisis - a world where everyone has the the power, skills, and capacity to cocreate thriving human cultures that know how to live well within the ecological systems that nourish all life, and where the economic system works in favour of justice and the health and wellbeing of all life.

7. IMPACT OF THE RESILIENCE ASSESSMENT PROJECT

7.1 Lessons Learned

At the end of our research, we asked the Community of Practice what advice they would give to other ecovillages, based on what they now know. Here is what they said

If you could give advice to other ecovillages for things to change, pay attention to, do, or implement, what would it be?

- Work on decentralisation, autonomy and redundancy for all your key systems, products and resources, including learning to produce many basic things yourself
- Nurture community culture, solidarity - including financial solidarity, trust and strong relationships to cope better with challenges
- Get good at strategic planning - learn about climate impacts and how your community needs to adapt, use the resilience tracker, and map your weaknesses as well as your competencies and strengths
- Have emergency response plans and protocols for preparedness and disaster prevention
- Collaborate and build resilience in your region, engage actively with your neighbours, focus on shared needs and things that can unify
- Educate yourselves and others about resilience and resilient community design
- Network and connect for support, global solidarity, inspiration in how to adapt, and to know that there are solutions and perspectives out there

How is an ecovillage that is resilient to climate change different to what an ecovillage was before? It has:

- Better monitoring and awareness of tipping points and ongoing changes
- Better strategic planning, preparedness, and skills in formulating and using future scenarios
- Stronger connections with the bioregion and knows how to strive together for mutual resilience

Many of the participating communities are already applying their learnings. All of them have also expressed their interest and commitment to continue participating in the community of practice as the project enters a new phase of deepening and scaling the work for locally appropriate, community-led, resilient approaches to navigating polycrisis with the wellbeing of all life at heart.

7.2 Voices from the Community of Practice

"Thanks to this project and through the workshops organised we were able to rejuvenate and write down the challenges and possible future scenarios for our communities. We are now working towards the mobilisation of more resources to take tangible actions. I as a whole have grown older, wiser and more equipped to facilitate and coordinate workshops and trainings within our network."

- People's Ecovillage Network, Gambia

"I've loved the shared learnings and cross pollination and being challenged about our techniques and approaches. I would like it to be an ongoing peer group to share mutual strength and support. Extremely grateful!"

- Govardhan Ecovillage, India

"Around this project we reconnected with our love for the earth and the purpose to protect life that brought us together."

- La Tierrita / La Comarca, Uruguay

"I celebrate the encouragement to believe and work for our vision further. We clarified the direction where we want to go together as a community, which is a really important force for change."

- Keuruu Ecovillage, Finland

"I am celebrating the inner resilience that grows through strengthening this network!"

- Piracanga, Brazil

"This has been quite a 'reality check', even as we leaned forward towards our imagined futures. Knowing and better understanding of the many elements of community, finding ways to articulate our ongoing story, and imagining our place in the bigger global picture. Coming to understand how we as a community in a global movement can contribute."

- Ecovillage Findhorn, Scotland

"We're in a phase of rebirthing. I'm excited about the possibilities as the next step for us is taking what we've learned about ourselves through this process, aspects we've identified as priorities, and going back to talk about the vision for this community."

- Earthsong Eco-Neighbourhood, New Zealand

7.4 Stories of Resilience

Members of the CoP created a collection of stories and articles to illustrate aspects of resilience to climate change and polycrisis in their ecovillages. The result is a moving, inspiring and insightful collection of creative writing, reflections, and key practices that illustrate many of the key themes of our collaborative research.

A touching and sobering letter to a future grandchild from Devon Kehler of Hundredfold farm, telling the story of how the community survived the painful passage through “the great fall” of 2035 through strong regional networks, economic cooperation, music, ceremony and crafts.

The story of how doing the resilience assessment led Keuruu ecovillage to realise how vulnerable their seed supply was, and to immediately start implementing a Finnish living seed bank with essential edible, medical or otherwise useful plants as well as knowledge of plant cultivation and seed production.

Mugove Nyika from Gudza Ramuka telling the story of how after the community explored connections between their food, the physical environment, their health and climate change, women and children took a lead in revitalising local farming practices - both as repositories of traditional knowledge and as implementers of the actions needed.

A look at the history of Huehucoyotl where pairing art and ecology is at the heart of both community life and resilience. As Gio Ciarlo says - “Creativity connects us with each other and nature through playfulness. It gives us the strength to be fearless, courageous and selfless when facing challenges.”

The story of how diversity in food production helped Damanhur navigate a frightening extreme weather event that destroyed most of the whole year's crops in less than an hour, told by Macaco Tamerice.

Michael Würfel from Sieben Linden reflects on his journey with the project, some future directions for his community to be more resilient, and how resilience appears to be a “whole new argument for intentional community living: Because all alone, a person cannot really respond to crises that go beyond the horizon of a private life. In the crises that are looming, everyone will be dependent on mutual support.”

Rob Wheeler tells the story of the Farm, the many things they are doing to be both sustainable and resilient, and how those who are driving change for resilience navigate the challenge of gathering and motivating all community members to care.

Keala Young walks the reader through a tension revelation practice that members of Atlan Center us to support them in embodying their community agreements.

8. Conclusion & Future Directions -

What kind of seeds for what kind of future antropocenes?

At the beginning of this report, we asked whether ecovillages can be seeds of good Anthropocenes when even our most positive future scenarios show a level of volatility, suffering and unravelling that can be hard to imagine. What will it take to go from seed to sapling to tree when the rains disappear and the soil is dying?

The research and findings presented throughout this report give some direction. Ecovillages exist because their members share an ambition for wider social and economic transformation based on ethics of shared wellbeing and care for the earth. They use a creative blend of mutually reinforcing social, ecological, cultural and economic practices to cocreate experimental high-trust communities that place stewardship and lived experiences of interdependence with nature at the heart. Areas in which ecovillage resilience to climate change appears strong are largely related to those aims, and reflect practices consciously designed and selected to allow communities to work together towards shared goals and values, and to consciously navigate the ongoing challenges of a more community-oriented lifestyle and path to transformation.

To truly become seeds of good anthropocenes able to flourish in the coming decades, these core capacities for holistic and values-oriented design, earth and people care, and collective action now need to be turned towards increasing resilience through better understanding and integration of climate risk, and rapidly increasing food security, emergency preparedness, and capacity for strategic planning.

Looking to the future, It is not just how we navigate, but also what we navigate towards, and the means we use to reach those ends, that matter for how humanity and the rest of nature will fare. Ecovillages have strong ethics of shared wellbeing and earth care, a clear vision of a more positive human presence on the planet, and decades of experience in using diverse practices to turn that vision into lived reality. They are committed to navigating the polycrisis not only to survive, but to safeguard and nurture human dignity, the more than human world, and the conditions for life to thrive. The challenge now is to cocreate a new set of community practices that feel as integral to ecovillage living as consent decision-making, ecosystem restoration, and making art together do today.

Our work has also shown us that resilience is a great connector - the resilience of each one of us, and each community, is dependent on the resilience of the surrounding region, and of the whole Earth. So let's work together.

The path to resilience can be one of community - regionally across sectors, towns and villages, and globally through growing communities of practice where knowledge, creativity and solidarity can flow across difference.

9. NEXT STEPS - KEYSTONE COMMUNITIES: SUSTAINING LIFE THROUGH POLYCRISIS

Looking soberly at the coming decades, we aim to equip local communities with models, capacities, and tools to serve as autonomous safety-nets, strongholds and sources of resilience and regeneration during crises - not only for human beings, but for all life. GEN is continuing the research into life-affirming and locally appropriate responses to worsening polycrisis through the project Keystone Communities - Sustaining life through polycrisis. There, we are picking up several of the threads we have discovered so far, to both expand and deepen our work in resilience. In 2024 - 2026, the core team and community of practice will embark on a journey to:

1) Scale and amplify local community leadership for polycrisis resilience

Leveraging the capacities, tools and Community of Practice built through the project, we will grow and strengthen the CoP, disseminate resources further, train more people in nurturing local resilience to polycrisis, and create regional learning hubs for community resilience. Stepping away from working solely within ecovillages, we will focus more on multi-stakeholder alliances and cross sector collaboration through actively working and organising capacity-building at the regional scale.

2. Build additional capacity, tools and frameworks for local communities to assess, monitor and act on systemic risk and respond to disaster.

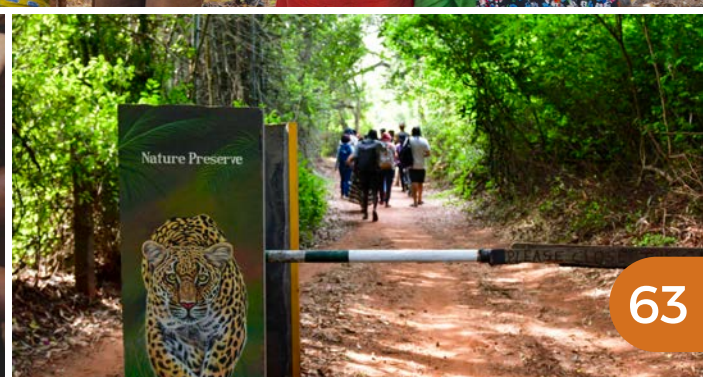
We look forward to expand our work with researchers, leading practitioners, allied organisations, frontline communities and the Community of Practice to research, develop, and test accessible methodologies, manuals or tools that support local communities to:

- contextualise, understand, map and act on global and national systemic risks and tipping points in their local context - turning research on global polycrisis and tipping points into actionable scenarios at the local level.
- design and implement easy to use early-warning and monitoring systems for local communities to autonomously assess and act on systemic risks in a timely manner - with a particular interest in systems and approaches that local communities can control, implement and maintain independently, also when larger systems falter.
- improve crisis preparedness and disaster first response at the local level in ways that safeguard solidarity and the wellbeing and right to thriving of all life.

3) Strengthen models for locally appropriate and life-affirming responses to polycrisis and leverage culture, art and storytelling to build personal and interpersonal resilience

Leveraging the transformative ambitions and skills in crafting regenerative cultures that ecovillages have, we seek to deepen concepts and values that can act as an ethical framework for life during polycrisis, and work to build more awareness and capacity to leverage story, imagination and art for social and psychological resilience, solidarity, post-disaster recovery, and resistance to totalising or disempowering narratives. We also seek to expand our toolbox with ways of being with trauma, displacement and grief that draw on arts and storytelling to re-member that which has been dis-membered.

We will do this guided by the concept of Keystone Communities - places that play a powerfully positive role in safeguarding life-affirming conditions in their local social-ecological systems, are based on values that encourage long-term thinking and solidarity, leverage culture to craft meaning, resistance, recovery and regeneration in the face of crisis, and are able to do so while absorbing shocks, avoiding tipping points, and retaining capacity for system transformation.



FURTHER RESOURCES

Share the Ecovillage Resilience Report:

www.ecovillage.org/resilience/ecovillage-resilience-report

Explore the Community Resilience Tracker:

www.ecovillage.org/resilience/tracker

Bring the inquiry to your own life through the online course “Weaving Resilience”:

<https://learn.ecovillage.org/course/resilience/>

Access the Community Resilience Companion Cards for educators and facilitators:

<https://ecovillage.org/community-resilience-to-climate-change-companion-cards/>

Meet experts and ecovillages through the Community Resilience Podcast:

<https://ecovillage.org/community-resilience-podcast/>

Learn about the follow-up project Keystone Communities - Sustaining Life through Polycrisis:

<https://ecovillage.org/keystone-communities>

Keep up to date with new projects and updates through the GEN Newsletter:

<https://ecovillage.org/get-involved/join-our-newsletter/>

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Appendices

[A. Resilience Attributes Tracker](#)

[B. Glossary of terms](#)

Appendix A: Resilience Attributes Tracker

Co-developed by Allyson Quinlan - Resilience Alliance, Anna Kovasna - GEN, and representatives of the 20 participating ecovillages

Attribute: Diversitiy

INDICATOR	RANK		
	LOW (contribution to resilience is weak or non-existent)	MEDIUM (contribution to resilience is moderate)	HIGH (contribution to resilience is considerable)
Natural habitat conservation	Less than 15% of the community is natural habitat that prioritises nature conservation, but doesn't exclude some human use (e.g., sustainable harvesting)	Between 15-30% of the community is natural habitat that prioritises nature conservation, but doesn't exclude some human use	30% or more of the community is natural habitat that prioritises nature conservation, but doesn't exclude some human use
Ecosystems & biodiversity	The community includes only one or two different ecosystems (e.g. grasslands, forest, wetlands, freshwater, coastal, etc.) and low diversity of plants and animals that are native to the area	There are a few different types of ecosystems and an average diversity of plants and animals native to the area	The community includes a variety of different ecosystems and relatively high diversity of native plants and animals, that may include rare or vulnerable species
Food production and crop diversity	Community members have access to low diversity of locally-produced food (produced in the community or region), with very few local crop varieties/animal breeds	Community members have access to medium diversity of locally-produced food, with a few local crop varieties/animal breeds	The community produces or sources locally a wide variety of crops and animal breeds, and stores a variety of seeds
Diversity of livelihoods and productive activities	Most members of the community rely on the same livelihood, industry or employer	Members of the community rely on a number of different livelihoods/industries/employers	Members of the community rely on a wide variety of livelihoods or employers and have diverse skill-sets and experience
Social diversity	Most people are around the same age, and most people share the same background, perspectives or cultural roots	The community has a mix of age groups and some diversity of cultures, backgrounds and perspectives	The community has people of all ages, is culturally diverse and members have a wide range of backgrounds and perspectives

Attribute: Redundancy

INDICATOR	RANK		
	LOW	MEDIUM	HIGH
Energy redundancy	Community members rely on a single centralised energy system with no back-up system	Community members have access to a primary energy system as well as a back-up energy system for critical systems. At least one energy source is renewable (solar/ hydro/ geothermal/ wind)	Community members' main energy systems use renewable energy and have back-up systems in place that can effectively stand in for main systems indefinitely if necessary
Redundancy in food security	The community produces less than 20% of their own food and depends on a grocery store or market for most of their food	The community produces 20-50% of their own food and supplements this with food from local sources (markets, farms, grocery stores)	The community produces more than 50% of its own food, supplements this with food from local sources (markets, farms, grocery stores) and has access to regional food supply chains
Freshwater supply	The community has a single water source and/or centralised treatment of drinking water	The community has a main water source with adequate supply (treatment if needed) and distribution, and access to a separate back-up water source if needed	The community has a reliable main water supply along with a fully functional alternate source with treatment (if needed) and distribution
Emergency response plans	The community has no emergency plans for extreme events or critical system failures.	The community has basic emergency planning in place and a system for communicating in the event of an emergency.	The community has an emergency plan in place for extreme events or critical system failures. It is reviewed and practised annually and includes a communications plan, evacuation routes, safe gathering places and shelter, emergency supplies in storage, and agreements for leadership and rapid decision-making during emergencies.
Insurance and basic security	Minimal or no formal insurance, no source of community funds or collective savings for emergencies, repairs or replacement	Some insurance and access to social safety net programs, some collective funds for emergencies or modest repairs/replacement	Community members have access to social safety net programs and there are dedicated funds to support members in case of illness/hardship. Most valuable assets are insured and/or there is a community fund or collective savings for repair and replacement, as well as access to wider network funding options
Critical skills back-up	There is a relatively small number of people in the community with the skills, knowledge and institutional memory of how to perform key tasks in the community (e.g., cooking, building, plumbing, landscaping, farming, water treatment, infrastructure maintenance, conflict resolution, design and planning, etc.)	Within the community there are just enough people with key skills but they are in high demand	Within the community there are multiple people with key skills who can be called on when needed, and there is an appreciation for different practices and ways of doing things.

Attribute: Balancing Connectivity

INDICATOR	RANK		
	LOW	MEDIUM	HIGH
Landscape connected-ness	There are few, if any, natural habitat patches in the community and they do not connect with the surrounding area; a number of roads cross through the community.	Natural habitat patches in the community are partly connected to surrounding ecosystems.	Natural habitat patches within the community connect to surrounding ecosystems and facilitate the movement of plants and animals through the landscape. There are fewer roads and more footpaths.
Supply chain connectivity	Strong reliance on global supply chains for many goods (e.g., food, equipment, clothing, building materials, etc.) that tend to be long and overly connected	Average reliance on global supply chains; strong interest in buying locally or regionally but those options are limited; many goods and services produced and provided locally (e.g., local farm store)	High self-sufficiency - low reliance on global supply chains with many goods and raw materials (food, wood, fibres, etc.) produced or sourced locally or regionally. Cooperative approaches to purchasing rather than individual shopping
Modularity in governance	Leadership is centralised. Policies and rules are created by a small leadership team. Community members have little control over important issues or direct say in decision-making.	Dispersed leadership with many committees overseeing different aspects of community life. A lack of integration among committees can lead to communication gaps or that only some members have a direct say in important matters.	Polycentric Governance: Decision-making is distributed across a number of independent groups and institutions that serve the community and its shared goals, share innovation and information freely, learn together, and collaborate and resolve conflicts when needed. Community members have a direct say in decision-making.
Self-organisation	Community culture and policies tend to inhibit self-organisation; participation relies more on being asked by those in charge.	Community culture encourages self-organisation but only a small group of people regularly take the initiative to coordinate events and organise groups to get things done within the community.	Community culture and policies encourage self-organisation in alignment with a shared vision. Groups of individuals regularly coordinate themselves to come together to accomplish tasks, get work done, and take care of issues as they arise.
Social networks and strength of interactions	There are weak connections among neighbours in the community who do not already know each other well; some polarisation among sub-groups and limited shared activities.	Most people actively participate in shared activities and/or belong to different groups; information is usually shared between groups and people sometimes help each other out.	Community members have deep social relationships and a high willingness to act in solidarity with each other. There are many shared activities within the community, and well established channels to share information and resources among groups.

Attribute: System Feedbacks

INDICATOR	RANK		
	LOW	MEDIUM	HIGH
Early warning systems	Early warning systems don't exist or are limited and do not take into account relevant natural hazards (e.g., floods, fires, hurricanes, etc.) and vulnerabilities. People do not have knowledge or information about how to respond in case disaster hits.	Early warning systems exist for relevant hazards, but they are not well known. There are protocols for how to communicate and respond in case of disaster, but these are not reviewed or practised.	Early warning systems are in place and people understand and practise how to respond to disasters. Information reaches everyone who needs it in time for them to take action to protect themselves and other people, their assets, and livelihoods in case of disaster.
Monitoring systems	The community has no real awareness or established way of monitoring important indicators for the health and integrity of social and ecological systems and infrastructure together. Any monitoring that happens is part of a specific activity and not shared.	The community is aware of important indicators for the health and integrity of social and ecological systems. The indicators are sometimes monitored but this is neither prioritised nor consistent. Monitoring information is not easily accessible and is only occasionally used in decision making and planning.	Monitoring programs are well established in the community. Important indicators for the health and integrity of social-ecological systems and infrastructure are regularly consulted when making decisions, plans and policies.
Regenerative agriculture	Farming practices focus on short term productivity and do not take the health of soil, climate and ecosystems into account.	Farming practices aim to improve soil and ecosystem health but the impact on the condition and health of the soil and surrounding ecosystems is modest.	Farming practices nurture and restore soil health, sequester carbon, reduce emissions, protect water resources and biodiversity, and enhance the diversity and productivity of the ecosystem now and for future generations.
Conflict resolution	People find it difficult to address tensions within the community and do not have shared and well established practices for resolving conflicts together	Some tensions in the community are addressed but some linger. There are established and shared practices for resolving conflicts but they are not always used.	People are skilled at communicating and addressing tensions within the community and know the value of doing so. There are established ways, support and options for resolving conflict in restorative ways.
Reflective practices	There are informal opportunities for personal and collective reflection but it's not part of the shared life and practices of the community. There is not a lot of willingness or practice to share and receive feedback. Most reflection on actions, behaviour and activities happen privately and are not used to inform and adapt what the community does.	There are opportunities for personal and collective reflection but no clear systems for how feedback is used to adapt activities and behaviour. People are generally willing to listen to each other and reflect together.	The community ongoingly uses shared practices for personal and collective reflection to better understand the impact of activities and behaviour. There is a lot of willingness and capacity to give feedback and listen to each other, and to evaluate actions and decisions that have been made.
Nature Connection	People in the community are not generally aware of how their lives are connected to nature. They tend to take nature for granted and focus only on social affairs or human wellbeing.	People in the community feel a sense of balance between themselves and nature and engage with activities to nurture a sense of connection with nature. Practices and activities aim to not harm the natural environment or to minimise harm but there is no active restoration of degraded ecosystems.	People have a deep understanding of the interdependence between humans and the rest of nature. The community has practices for strengthening a sense of connection with nature, and activities or ways of life that restore ecosystems and enrich access to food, habitat, clean water and wellbeing for all beings in mutually supportive ways.

Attribute: Inclusivity & Equity

INDICATOR	RANK		
	LOW	MEDIUM	HIGH
Opportunity to participate	Leadership and decision-making roles are not open to all members, and it is not clear how to join the community and its activities.	Activities, leadership and decision-making roles are open to all community members but there is no specific effort made to make it accessible for different groups and people.	People are actively welcomed to join in activities and step into leadership roles. There are clear ways to join the community, and active work to remove barriers for people to participate fully in community life.
Unity of purpose	There is a low sense of shared purpose and commitment in the community, multiple purposes that act against each other, or a purpose that is shared but does not feel relevant and motivating to members	There is a shared purpose but it's only somewhat relevant to community members and is rarely revisited, discussed or engaged with directly. People are committed to living in the community but not necessarily to the shared purpose itself.	People have a strong sense of commitment to the community and a clear shared purpose that feels relevant and is reflected in community practices and daily life.
Trust	Community life is characterised by low levels of interaction and openness. People mostly trust their immediate family and friends to support them with projects or go through hard times. Community institutions are sometimes seen as inefficient or corrupt.	Community life is characterised by friendly interactions. People tend to trust that others mean well and will do what they say, and sometimes help each other out or have projects in common.	Community members are willing to rely on each other and quickly organise to offer each other strength and support. Communication is generally open, authentic and kind. People dare to show vulnerability, and trust each other and community institutions to be truthful and live up to their promises and agreements.
Reciprocity & sharing of resources	Resources, skills and tools are used primarily for individual benefit and not often shared with others. People in need are sometimes left to fend for themselves.	Strong valuing of shared resources in theory but high variability in practice. Resources shared in high needs situations but not on an ongoing basis.	There is a strong culture of mutual support, generosity and sharing of skills, tools, and resources. Forms of ownership, use or sharing of land and water guarantee equitable access, ensures participatory control and safeguards them for future generations
Integration of different types of knowledge	One way of thinking and knowing is put before all others without ever being evaluated or discussed	Several types of knowledge are present in the community but usually in separate areas rather than combined to create a fuller understanding together	The community respects, evaluates and skillfully weaves together traditional ecological, scientific, experiential, intuitive, indigenous and other types of knowledge

Attribute: Adaptive Learning

INDICATOR	RANK		
	LOW	MEDIUM	HIGH
Monitoring and learning integrated with planning	Plans and strategies are implemented within the community without paying enough attention to what has been learnt so far, and without sufficient information or understanding of changes that have been detected	The community uses information and data from monitoring processes to inform plans and strategies. Past strategies are discussed in group meetings and evaluated in terms of their effectiveness before being modified or updated to address new challenges or a changing context.	Trends and ongoing changes are actively monitored and results are gathered and shared. The community values past learning and uses up to date insight into the state of social-ecological systems to plan new projects and to adapt goals and activities on an ongoing basis.
Experimentation & openness to new ways of doing things	People prefer to do things the way they have always been done and do not generally want to try new things or learn by experimenting.	People tend to be open to trying new ways of doing things or considering multiple approaches for responding to issues and making plans. Rarely are options tested in advance using some more formal process of experimentation.	The community is willing and able to try new things and skilled at using thoughtfully planned experimentation to learn and co create future actions and pathways. Experiments designed to learn quickly are a common way to adapt practices, actions and plans.
Collaborative learning practices	Learning tends to happen through trial and error at an individual level or in small groups. Learning and teaching methods are out of date or out of touch with local needs, culture and situations.	Community activities involve a lot of collaboration and sharing of knowledge and skills. There are opportunities within the community to learn together how to do new things or address challenges, but not everyone in the community participates.	Learning and reflection is embedded in community activities as an essential and valued way of navigating through the world. New learning is shared widely, received with interest and quickly applied in new real-life situations. Learning and teaching methods are inspiring, engaging and relevant to local needs, culture and situations.
Learning from past responses to crises	There are few people in the community who remember past responses to crises and who share this knowledge through stories or meetings so that the community can collectively reflect on and learn from past responses. Stories are seen as nice but not relevant to today.	Occasionally there are opportunities for sharing stories and memories related to past crises. While there is learning from past responses, the opportunity to do so tends to be more spontaneous and up to each individual.	The community values and learns from memories and stories of responding to past crises and recovering from adversity. These stories are seen as important and relevant sources of insight and collective strength, and are drawn upon whenever they are needed.
Adaptive decision making guided by future scenarios	The community has little experience with using future scenarios to help guide decision making, and lacks a shared sense of possible futures. Plans tend to be made without being tested for future risks and alternative scenarios.	The community has developed future scenarios that consider different risks and contexts of uncertainty. While the scenarios have been shared and discussed they are not actively used to explore the possible outcomes of different decisions.	Community plans and decisions are designed to be flexible, adaptable, and impactful across multiple future scenarios. These scenarios are known and used by all community members and organisations, and consider different local and global risks and uncertainty.

Appendix B: Glossary of Terms

Active Hope	Joanna Macy and Chris Johnstone (2012:3) write about the three steps of what they call Active Hope - "First, we take a clear view of reality; second, we identify what we hope for in terms of the direction we'd like things to move in or the values we'd like to see expressed; and third, we take steps to move ourselves or our situation in that direction". This kind of hope does not require optimism, it requires intention, and enough courage to face the situation, feel its implications, and still not give up.
Adaptation, adaptive capacity	Adaptation is a process in which systems learn from and adjust in response to changes in internal system dynamics and/or external drivers. Adaptive capacity reflects the capacity of a system, an individual, or a group to respond to change by making adjustments to maintain overall structure and function of a system.
Arc	Refer to the 3 main parts of our overall journey
Blocks	Refers to 3 week blocks of intervals of meeting with the CoP as part of our overall journey. There are 21 blocks
Complex Systems	Complex systems are comprised of a number of interacting components that together give rise to emergent behaviour. Characteristics of complex systems include feedbacks, non-linearity, and uncertainty.
CoP	Community of Practice
Ecovillage representatives	Two representatives from each ecovillage who will be participating in this project
External driver	A force originating outside of the system that influences how a system functions, develops, and changes over time.

Feedback & Feedback Loops	A feedback exists when one part of a system changes, triggering other components to change in response that then loop back and affect the original system component. Amplifying feedbacks reinforce or create more change, whereas balancing feedbacks have the effect of dampening or counteracting the original change.
Local workshop	Workshop spaces held by the ecovillage representatives with their communities
Personal and interpersonal resilience	The ability of each one of us as well as our social relationships to cope with shocks, challenging feelings and social dynamics
Phases	Refer to the 5 phases of our resilience assessment as part of our overall journey
Polycrisis	A polycrisis occurs when crises in multiple systems become entangled in ways that significantly degrade humanity's prospects. These interacting crises produce harms greater than the sum of those the crises would produce in isolation, were their host systems not so deeply interconnected.
Regime shift	Large persistent changes in the structure and function of social-ecological systems.
Regional representatives	1 to 2 regional representatives who will be part of the project; attending the sessions; facilitating regional check-ins; holding space in the workshops and beyond the workshops; and working with the GEN resilience facilitators
Resilience	Resilience is the capacity of a system to cope with disturbance and to persist in the face of change. Social-ecological resilience reflects the capacity of a system to sustain human well-being, by buffering shocks, adapting, and when necessary, transforming.

Shocks & stressors	Shocks are sudden disturbances that disrupt a system, while stressors build up over time putting pressure on a system.
Slow & fast variables	System parts/variables change at different speeds. We tend to focus on “fast variables” that are more visible, such as crop production, when it is often “slow variables”, such as soil organic matter that controls how the fast variable behaves.
Social-ecological system	Social-ecological systems (SES) are integrated systems of people and nature. The term emphasizes that humans are part of, and not separate from, nature. SES are a type of complex adaptive system.
System Identity	System identity refers to the defining characteristics and qualities of a system, including its parts, its structure and organization, and the benefits the system provides to those within it as well as what they want for the system.
Thresholds	A threshold is a critical level of one or more parts of a system, that when crossed triggers abrupt change that may or may not be reversible. Thresholds may result in system dynamics changing substantially, and the system reconfiguring itself into something different. Therefore it is important to be aware of thresholds of potential concern in your system.
Timezone groups	Two groups with different times to meet according to timezones eg. Asia/Pacific/North America + Europe/Africa/Middle East
Tipping points	Tipping points are the level at which a threshold is crossed that triggers abrupt change in the system that may or may not be reversible.
Transformation, Transformative capacity	Transformation involves fundamental and deliberate change to a system, resetting its overall structure and function, to one that is generally more preferred and sustainable. Transformative capacity reflects the capacity to change the system that enables this new development trajectory