



Introduction to Transformational Resilience

**The Need, Methods, and Benefits of Preparing People Worldwide
for the Traumas and Toxic Stresses of Climate Change**

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**A Very Dangerous Ecological--Turned Mental Health—
Turned Psycho-Social-Spiritual—Turned Humanitarian Crisis—
is Rapidly Growing...**

The Harmful Human Reactions to Climate Impacts!



**The Adverse Psychological & Psycho-Social-Spiritual
Reactions to Climate-Enhanced Traumas & Toxic Stresses**



The Climate Crisis is Unlike Any Modern Society Has Faced!

Even With Aggressive Emissions Reductions:

- It will **worsen for decades** and increasingly **intermix fast-growing disasters** with **ongoing and intense (toxic) stresses** offering **less & less time for recovery**.
- It will **aggravate racism & other systemic oppressions**, disrupt **social support networks & other critical protective systems**, & **magnify many health inequities**
- The resulting **psychological** and **psycho-social-spiritual maladies** might be **as bad** as the physical impacts and could **stall or derail efforts** to cut emissions.

But the Climate Crisis Also Offers The Opportunity for Profound Transformation!

It is a primal truth that, as painful as it can be, adversity is often our greatest impetus for learning, growth, and transformation.

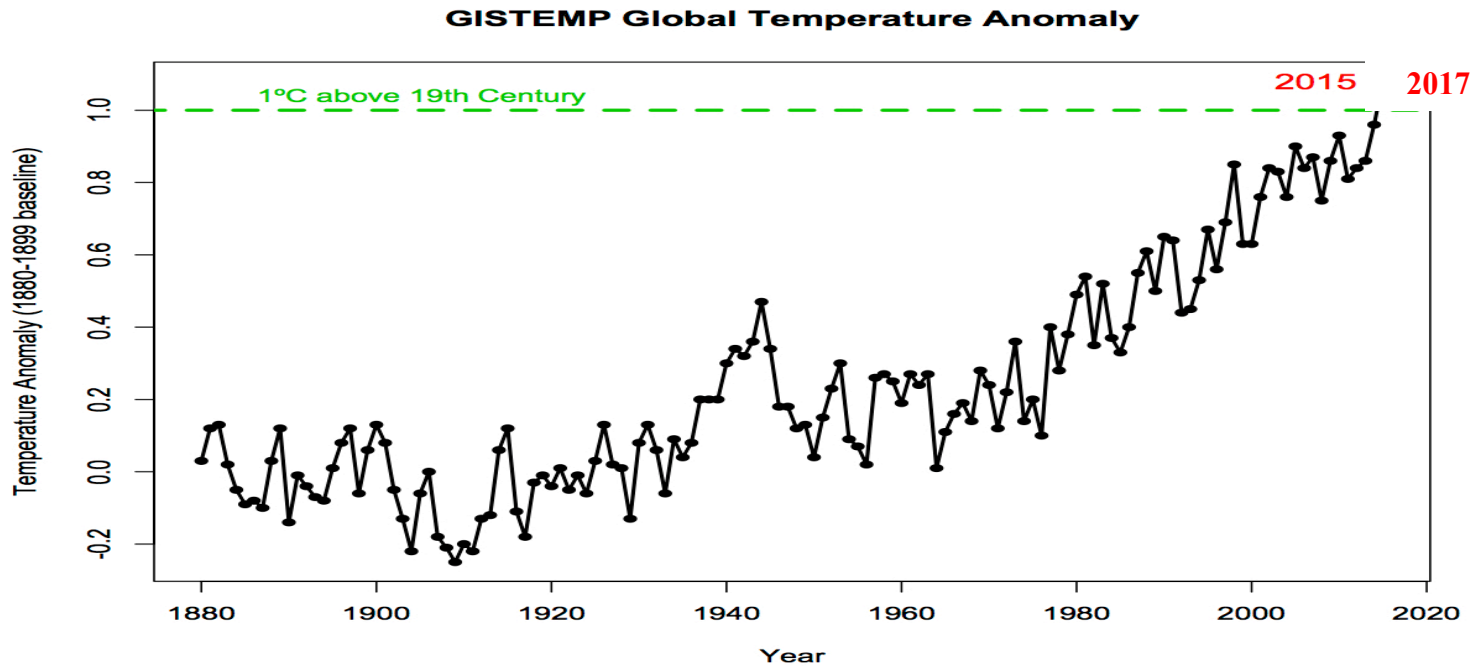




Imagine the Benefits of a Global Preventative Transformational Resilience Movement That Helps:

- All **adults & youth** become **trauma-informed**, **build on strengths**, and **enhance personal** and **collective protective factors** so they can **think and act in healthy ways** even in **unhealthy conditions**.
- All **leaders** learn to **promote social narratives**, **shift cultural norms and practices** & make their groups **safe, healthy, just, and equitable resilience-enhancing entities**.
- **Everyone** learn how to use adversities as **transformational catalysts** to find new **meaning, direction** and **hope** in ways that dramatically increase **personal, social, and ecological wellbeing**.

Average Global Surface Temperatures Have Already Risen By 1.8 F (1C) Above Pre-Industrial Levels—With 2/3 of Rise Since 1975



2014: second warmest on record

2015: warmest ever recorded

2016: warmest ever recorded

2017: ranked 2nd warmest (by NASA) and 3rd warmest (by NOAA)

2018 and beyond: likely a 3.6 F (2C) temperature rise or more.

Consequences: More Frequent and Extreme Disasters

Wind, Rain, and Snow Storms



Heat Waves



Wildfires



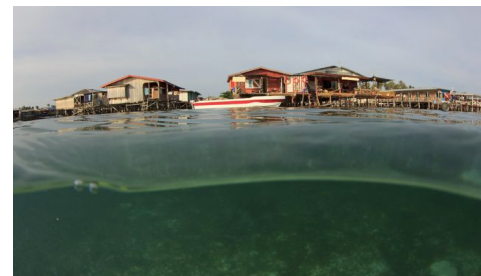
Drought



River Flooding



Sea Level Rise and Storm Surges



And many other surprise disasters...

Equally Important: More Ongoing and Intense (Toxic) Stresses From Experiencing, Seeing, or Worrying About...

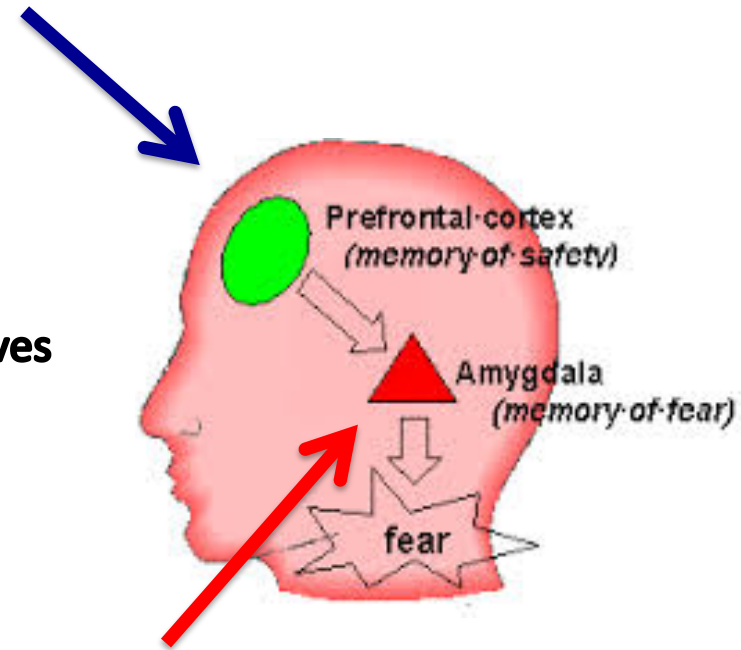


- Our future and our children's future
- Loss of place, community, culture and natural environment
- Disruption of close family and friend social support networks
- Involuntary migration
- Water, food and other resource shortages
- Economic disruptions and job losses
- New illnesses and diseases
- Disaster-triggered crime or violence
- Intensified racism, sexism, and other systemic oppressions
- Many other surprising chronic toxic stresses

What Happens When Humans Experience Trauma and Toxic Stress?

Prefrontal-Cortex: "Executive Center"

- Can direct, but not control, the Fear & Alarm Center.
- Rationally sorts out real & false threats & decides how to respond—but can also prevent discharge of hyperarousal.
- Develops beliefs about the world and self that give our lives meaning and direction



Amygdala: The "Fear and Alarm Center"

- Fear-based survival reaction occurs automatically when senses threat and release neurochemicals into the body to prepare us to fight, flee, or if overwhelming freeze.
- Works like smoke detector—a false alarm is better than mistake— but can lead to dysregulation.



“Direct, acute experience with climate change can produce...sudden and severe mental health consequences.”

(Mental Health and Our Changing Climate, American Psychological Association 2017)

Examples of Psychological Impacts of *Fast Moving* Climate Disasters

Effects depend on the intensity, duration, and level of exposure to the event.

Research shows 20%-50% of people impacted by extreme weather events can experience severe:

- Anxiety
- Depression
- PTSD
- Higher suicide rates
- More

Examples

- 30% to 50% of Katrina survivors suffered from PTSD, severe depression, anxiety, or hopelessness, and suicides went up substantially.
- 20% of east coast residents after Superstorm Sandy reported PTSD, 33% reported depression, and 46% reported anxiety.



Examples of Psychological Impacts of *Fast Moving* Climate Disasters

Effects depend on the intensity, duration, and level of exposure to the event.



Elevated levels of PTSD have been found among people impacted by wildfires...

sometimes lasting several years. (APA)

Examples of Psychological Impacts of Fast Moving Climate Disasters

Effects depend on the intensity, duration, and level of exposure to the event.



Research shows similar psychological effects from flooding with curious increased impacts on children:

- Anxiety
- Depression
- PTSD
- Higher suicides rates
- Increased aggression in children

Example

In the UK after the 2007 summer floods:

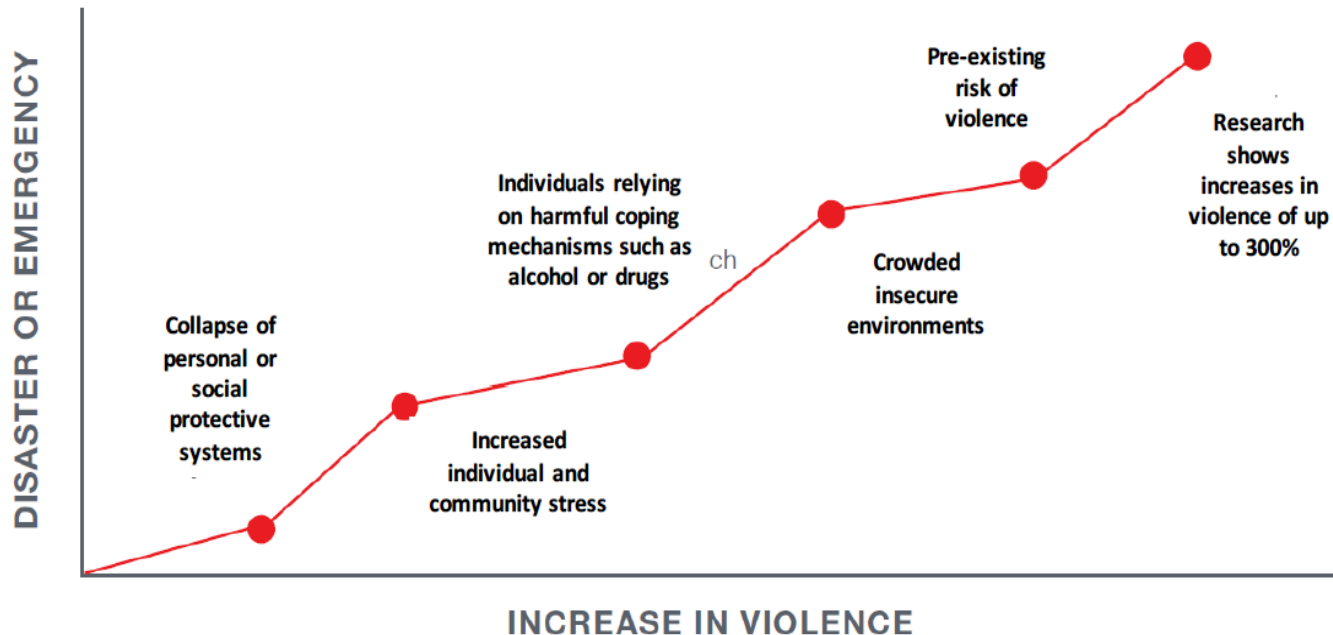
- 75% of the people directly impacted had severe anxiety
- 50% experienced depression
- About 25% suffered from PTSD

Examples of Psychological Impacts of *Fast Moving* Climate Disasters

Disasters Can Increase Violence

(Canadian Red Cross)

The risk of violence in emergencies increases by up to 300% due to a combination of shocks at the individual, family, community, and societal levels. The main drivers include:



Adapted From: *Best Practices for Building Resilience and Addressing Interpersonal Violence During and After Disasters*, by Amélie Doyon, Canadian Red Cross, ITRC Conference, Washington, D.C. November 4th 2016

Examples of Psychological Impacts of *Slow Growing* Climate Impacts

Effects depend on the intensity, duration, and level of exposure to the event.



Research shows droughts can produce a similar range of mental health problems and increase substance abuse

Examples

- Studies in Australia found that family dysfunction, depression, anxiety, hopelessness and suicide rose in mist of drought.
- In US droughts of the 1980s, male farmers and ranchers in Wisconsin, Minnesota, North Dakota, South Dakota, and Montana demonstrated rates of suicide twice the national rate.
- Many studies have found that alcohol & drug abuse rise in droughts.

Examples of *Psycho-Social-Spiritual* Impacts of Climate Change

Effects depend on the intensity, duration, and level of exposure to the event.

Research shows hotter temperatures *alone* tend to increase:

- Substance abuse
- Domestic violence
- Assaults
- Robbery and burglary
- Higher suicides rates
- Interpersonal aggression
- Violence

Examples

- One study looked at 30 years of monthly crime and weather data for 2997 U.S. counties and found that as temperatures warmed so did aggravated assaults, simple assaults, robberies, burglaries, larceny and vehicle theft.
- Research in Europe also linked hotter weather to higher crime rates.



Hopelessness is a Slow Growing *Psycho-Social-Spiritual* Climate Impact

Research shows growing hopelessness and helplessness due to the “unrelenting day-by-day despair” of climate change

(APA)

Examples

- Prolonged drought, insidious impacts like food shortages, rising sea levels, and the gradual loss of natural environments are:
“causing some of the most resounding chronic psychological consequences.”
- Mental health problems can also be triggered indirectly from:
“Watching the slow and seemingly irrevocable impacts of climate change unfold, and worrying about the future for oneself, children, and later generations.”



Climate Change is a “Multiplier of Injustice”

Quote by Jacqui Patterson, Director of the NAACP Environmental and Climate Justice Program
and ITRC Steering Committee Member



- Indigenous communities, people of color, immigrants, low income populations and other frontline communities often **experience climate impacts first and the hardest.**
- The impacts are **often aggravated by unjust and inequitable norms, practices, and policies** that exist **before impacts**, and are **intensified during, and afterwards.**



Climate Change Will Aggravate Health Inequities

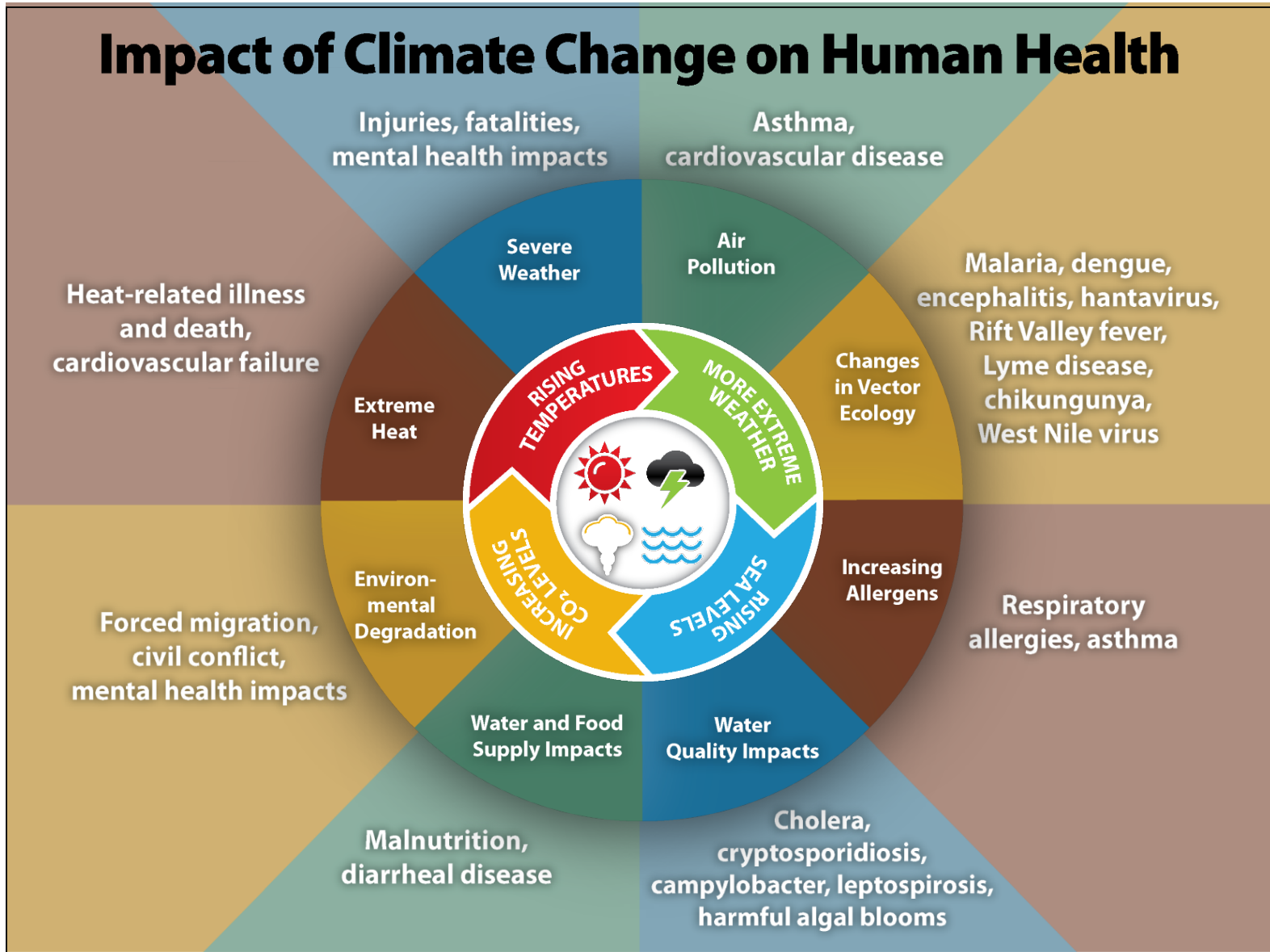
Health inequalities are **socially determined, avoidable**, and **unjust** differences in people's health across the **population** and **between specific groups**.

They **disadvantage people** and limit their chance to **live longer, healthier lives**.

Some Examples of Health Inequities Include:

- Living in locations where disasters are most likely to occur
- Poor air or water quality due to nearby polluting industries or sites
- Poor quality housing and transportation access
- Lack of employment opportunities and sufficient income
- Poor early childhood development and education
- Lack of access to healthy foods
- Lack of access to, or extremely costly, health care services
- Lack of sufficient protection from crime and violence
- Lack of protection against institutionalized racism and discrimination

Impact of Climate Change on Human Health



Fearful people often retreat into a self-protective survival mode that leaves them uninterested in external issues like emission cuts



Left unaddressed, the adverse human reactions to climate impacts threaten to stall or derail efforts to minimize the climate crisis!

What is Trauma?

The Loss of Sense of “Self”

Trauma results from sudden and shocking—or persistent overwhelming—event(s) that make us acutely aware of our inherent vulnerability and mortality ...



and threaten our deeply held and often unconscious assumptions that the world is comprehensible, manageable, safe, and meaningful, which undermines our sense of self.

Worldwide Climate Disasters & Toxic Stresses Are Producing Both...



Individual Trauma



Collective Trauma

**Both can cause people to harm
themselves, others, and the natural environment**

Summary of Risks If Left Unaddressed

Stress Reaction From Release of Cortisol & Adrenaline

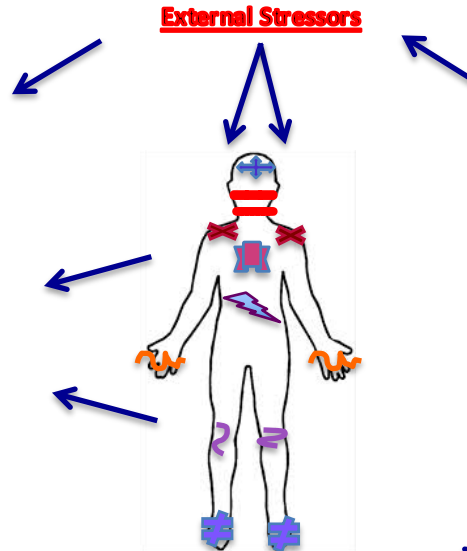
- Physical Reaction:
Increased blood pressure, pulse rate, difficult breathing, cold sweats, muscle tension, aches & pains, sleep disorders
- Mental Reaction:
Excessive fear, worry, guilt, lost trust, shattered assumptions and lost meaning

If not discharged, what began as helpful adaptive reactions can become harmful



Maladaptive Coping

- Self-numbing via legal or illegal substance, food, tobacco abuse
- Seeking relief via diversions like overworking
- Seeking relief by inflicting our distress on others via aggression or violence
- Dissociation, denial, reenactment
- Less ability to cope, problem solve, and enhance wellbeing



Group/Social Breakdown

(Trauma-Organized Orgs & Communities)

- Distrust, despair, meaninglessness
- Low empathy and compassion
- More authoritarianism and extremism
- 'We vs. Them' polarization
- Acting out: aggression, violence, crime
- Less ability to cope, problem solve, and enhance wellbeing



If many people experience these reactions

If It Continues



All Encompassing Personal Breakdown

- Physical health problems (e.g. cancer, heart)
- Psycho-emotion problems (e.g. anxiety, depression, PTSD)
- Spiritual problems (e.g. hopelessness)
- Cognitive problems (e.g. memory loss)
- Behavioral problems (aggression or withdrawal)
- Less ability to cope, problem solve, and enhance wellbeing

**A Whole New Way of Thinking Is Needed
To Respond to a 3-7⁰ F or More Temp Rise!**



Rethinking

A Whole New Way of Thinking is Needed to Respond to a 2C Temp Rise

Disaster mental health programs—while vital--will increasingly be:

- Overwhelmed (most are already fragile)
- Stop Gaps because most are short term and only seek to stabilize people during and immediately after disasters
- Inadequate because they do not help people cope with persistent and intensifying (toxic) climate stresses.



The Adverse Human
Reactions to Climate Impacts

A Whole New Way of Thinking Is Needed to Respond to a 2C Temp Rise

Many direct social service programs—while vital--
will be increasingly inadequate because they are:

- Siloed into mental health, physical health, low income programs
- Not designed to address 2-5 co-occurring psychological and psycho-social-spiritual problems simultaneously
- Not able to assist the millions of people that will be impacted



The Adverse Human
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A Whole New Way of Thinking Is Needed to Respond to a 2C Temp Rise

Traditional approaches to risk and vulnerability analysis will be also increasingly inadequate because they tend to...

- Focus on visible easily quantifiable things like buildings and infrastructure and ignore the human dimensions of resilience.
- Seek to eliminate weaknesses (which can seem endless) rather than build on strengths & enhance protective factors.

(Twigg, 2004, IFRC 2012)



The Adverse Human
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A Whole New Way of Thinking Is Needed to Respond to a 2C Temp Rise

Traditional concepts of “resilience” will also be inadequate because...
it will be impossible to “bounce back” to pre-crisis conditions....



The Adverse Human
Reactions to Climate Impacts

And many people *don't want this!*

Traumatized and stressed people want to be able to
increase their sense of wellbeing above previous levels!

A Whole New Way of Thinking is Needed to Respond to a 2C Temp Rise

Resilience vs. Preparedness



RAND Corp. Assessment

**Traditional Disaster Preparedness
Programs Have Not Worked
Well Enough**



What To Do?

Two Wolves Parable

Prevention Before Harmful Reactions Occur Is Key!

And It Works!

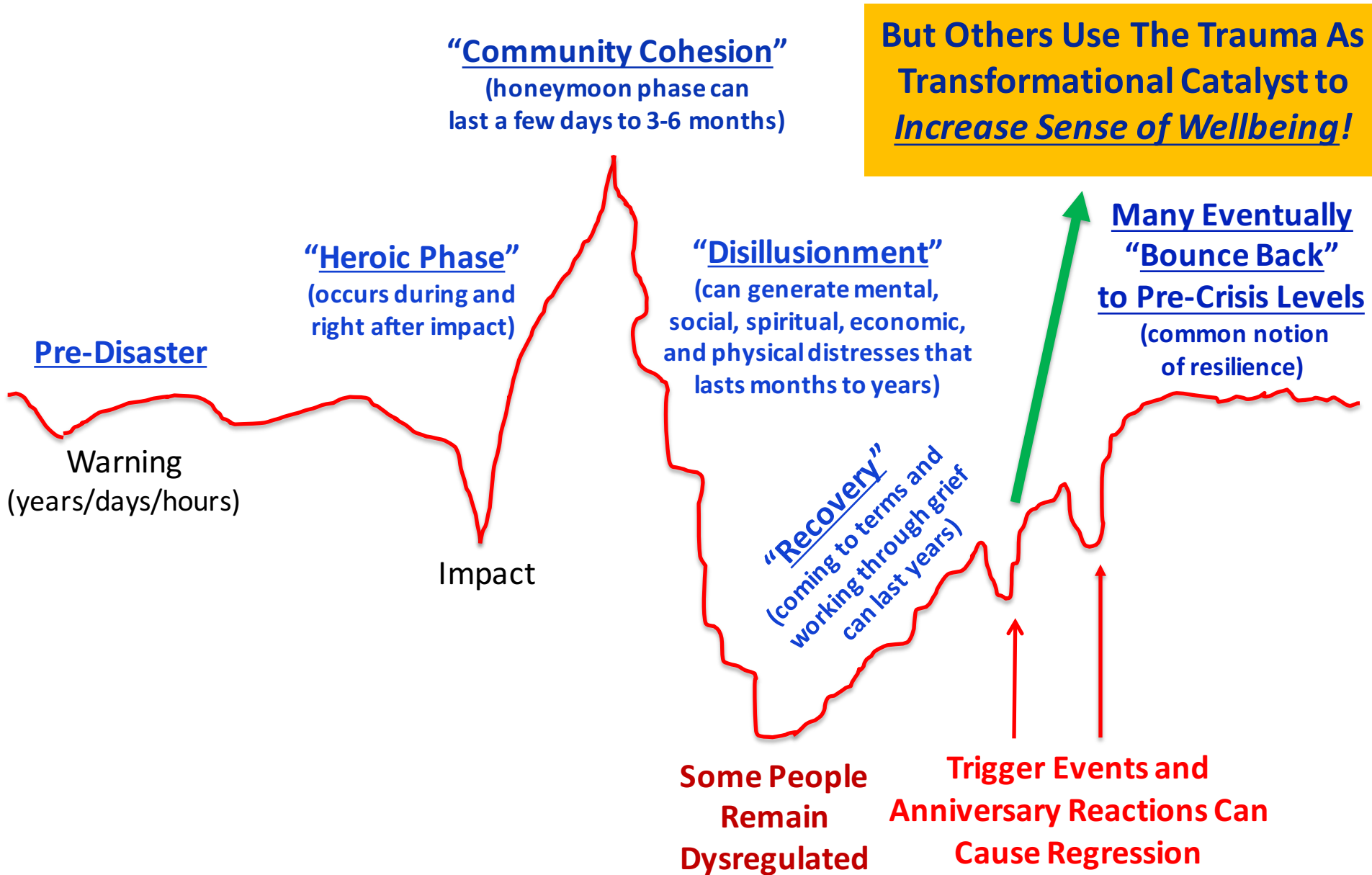
- ACEs prevention
- Smoking prevention
- Minimum drinking age laws
- HIV infections
- Childhood immunizations
- Motorcycle and bicycle helmet laws
- Child seat and safety belt use
- Many More Examples!

A major national and global prevention movement can

Build a Culture of Transformational Resilience!



Phases Commonly Seen in Disasters



Transformational Resilience is *Essential* for Climate Change

(A version of post-traumatic growth)

The ability to constructively cope with climate and other adversities and use them as catalysts to learn, grow, and increase personal, social, and ecological wellbeing substantially above pre-crisis levels.

From *Transformational Resilience*, B. Doppelt
(Greenleaf Publishing 2016)

Key Elements of Helping *Individuals* Build Their Capacity for Transformational Resilience

(From the Resilient Growth Model™: B. Doppelt 2016)

Age, culturally, and demographically appropriate:

Trauma-Informed Skills

- Basic sense of neurobiology of trauma & toxic stress
- Understanding symptoms
- Knowledge of how it affects body, mind, behavior

Presencing Skills

- Self-regulation
- Social supports
- Self-efficacy

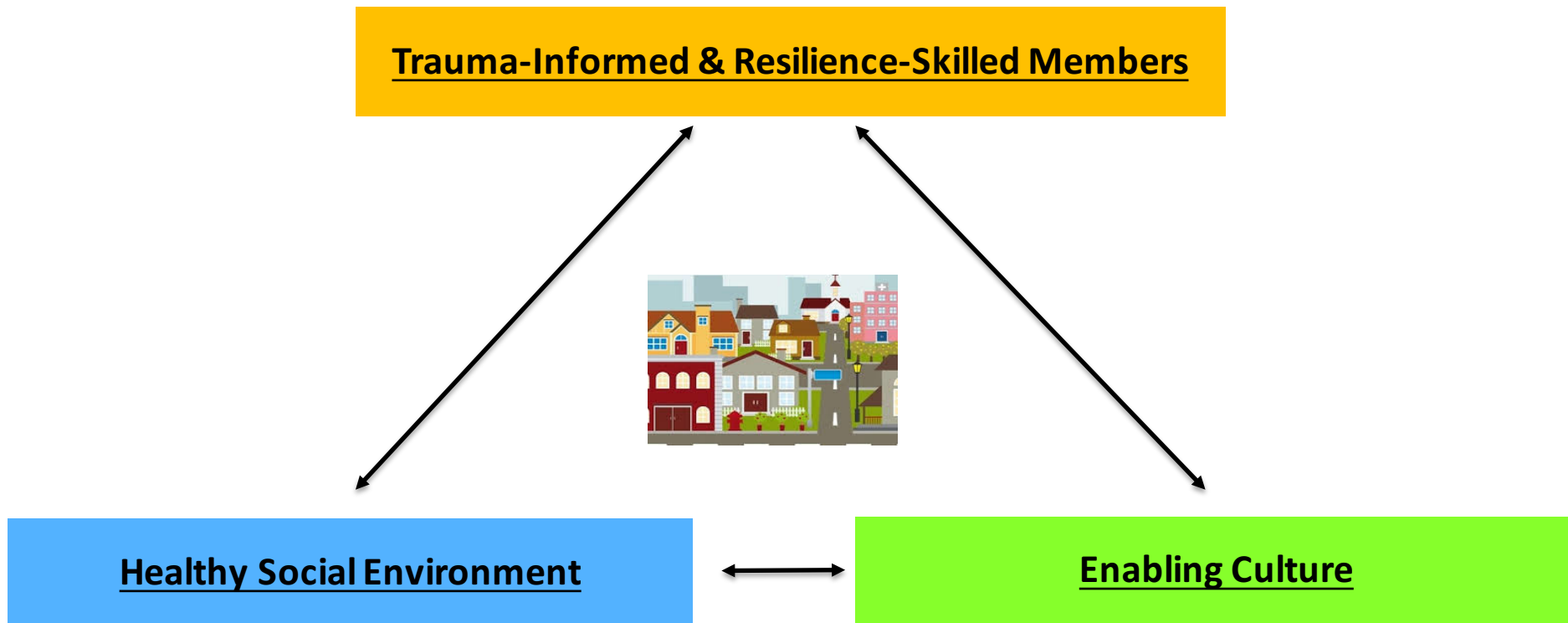
Purposing Skills

- Learning and meaning making
- Values-based actions
- Harvesting hope

See ITRCLibrary on the website for research basis of this model.

The Three Pillars of Transformational Resilience in Organizations and Communities

(From the Resilient Growth Model™: B. Doppelt 2016)



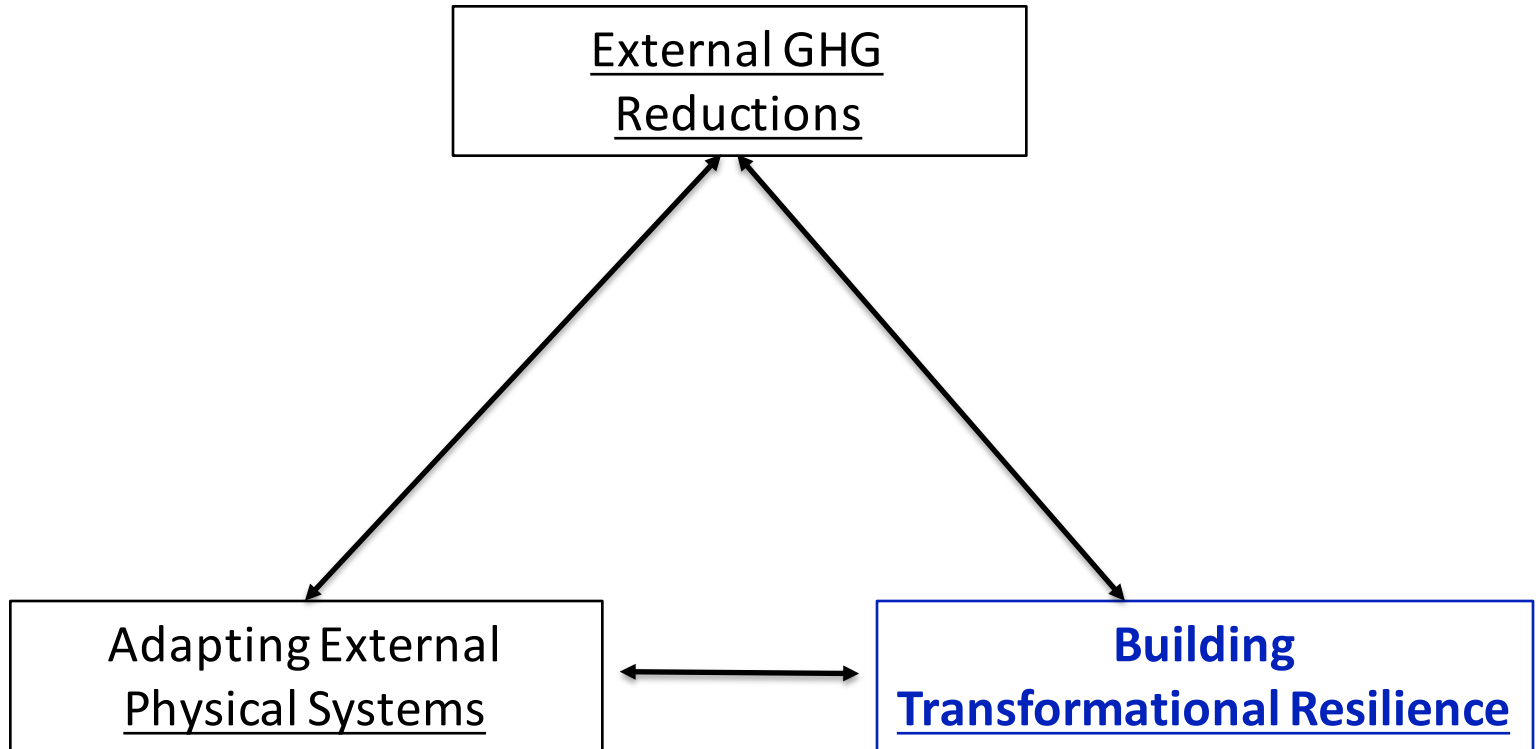
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Climate Programs Must Quickly Expand Beyond External Physical Focus and Put *Equally* Emphasis on *Building Transformational Resilience*!



How Can You Be Involved?

1. **Get Educated**: Learn and continually practice the basic principles and skills.
2. **Connect With Like Minds**: Reach out to people in your organization, profession or community with similar interests to discuss need, methods, and benefits.
3. **Organize Local Planning Team**: Ask others in your organization, profession, or community to join you to develop vision, goals and strategies for a TR initiative.
4. **Educate Others Using Multiple Means**: Your team can offer talks, webinars, brown bags, blogs posts etc. to develop widespread understanding of need, methods, and benefits.
6. **Launch Education and Training Programs**: Offer educational workshops on your own or invite other trainers to do so to begin to build widespread levels of TR.
7. **Join the ITRC**: Meet like-minded people, get news updates, share events. Sign up at: <http://www.theresourceinnovationgroup.org/intl-tr-coalition/>

**Building a Culture of
Transformational Resilience *Is Possible!***

**“The ideas of one generation become the
instincts of the next.”**

— D.H. Lawrence

**Let's Launch a Movement to Make The U.S.
and All Other Nations...**



**Trauma-Informed
Human Resilience-Enhancing Societies for
Climate Traumas & Toxic Stresses!**