# Effective Tools for promoting change in Complex and Interrelated Realities

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In order to find effective ways to manage the complex realities of our world, we need effective systemic tools to diagnose the problems, assess societies' readiness for change, design the solutions, implement the plans, monitor and evaluate the results.

There are many major and mounting emergencies facing us. For lack of space here, I will make some examples mentioning Goals 3 and 4 of the U.N. Sustainable Development Goals. We have scientifically known for long that in our planet and beyond that everything is interrelated and interacting with the other systems in a continuous process of mutual interrelationships. Here I will mention only some change-promoting approaches that are people-centered and which promote the quality of the relationships with oneself, others, and the planet by fostering empowerment and the resilience of all stakeholders.

There is ample and mounting scientific evidence that our present relationship with ourselves, others, and the planet we live in is the main variable influencing all life forms and the planet itself, a dramatic epochal change referred to by scientists as the Anthropocene (Crutzen and Stoermer, 2000).

The human population's exponential increase in numbers and consumption behaviour has produced such dramatic and exorbitant costs. Our present way of life has negatively impacted many of the ecosystems of our planet and a mounting number of scientists warn us that we are fast reaching a tipping point where mitigation and/or reversal of trends will not be within our reach if we do not act promptly and effectively (IPCC, 2007, 2012, 2019).

Notwithstanding the seriousness of the threat, many obstacles remain in the way of effective, community, national and international sustainable governance. The lack of awareness of the magnitude of the problems and the changes needed in the behaviour of all the stakeholders to manage the serious challenges facing humanity are in part due to barriers of a sociological and psychological nature and impede effective coordinated actions of various stakeholders. The underlying mechanism at work in the resistance to change varies from culture to culture: how reality is socially construed and how individuals and organizations construe their experiences and narratives is relevant also for the understanding of the adaption of change needed to promote sustainable governance and for understanding some of the barriers to change.

The human population has drastically increased in the last century with billions of people adopting consumption behaviour that has negatively impacted and polluted the earth at levels that our ancestors were never capable of.

The anthropogenic impact has largely surpassed the planet's metabolic capacities: It now takes the Earth one year and six months to regenerate what we use in a year. At present, humanity with its destruction of natural resources, pollution of air, land, and water is altering the climate 5,000 times faster than the pace of the most rapid natural warming episode in our planet's past (Caldeira, 2012).

Ban Ki-moon, the former UN Secretary-General in his message to the Planet Under Pressure Conference, stated: "Climate change, the financial crisis, and food, water and energy insecurity threaten human well-being and civilization as we know it."

The scientific community can help us make sense of these complex and interconnected challenges, including by strengthening our understanding of "planetary boundaries" and "critical thresholds…. But policymakers often fail to turn to scientists for advice, or discount it too easily owing to electoral or other political considerations…."

Population multiplication is not the only variable, consumption patterns—how people live and how much planetary resources they consume—are of equally great relevance. If not resolved the inequities of resource access, distribution, consumption, and levels of pollution will become formidable obstacles to an effective, equal, and sustainable governance of our planet.

The ineffective or dysfunctional ways in which we may see things, the way in which we construe the experience of reality are at the root of many barriers to effective sustainability.

The pervasive mechanistic reductionist approach of the past has led to disastrous results nevertheless, and we largely continue to offer obsolete knowledge in the field of education recreating sequential boomerang effects.

The world in the past was focused on diagnosing problems or seeing reality on a mechanistic and unrealistic simplification, creating policies, services and products focused on fixing a specific part of the system, ignoring reality and the obvious impact that any single action has on the whole. For example, the development of pesticides and chemical fertilizers was seen as a scientific breakthrough for feeding humanity and building a better and more prosperous world. Unfortunately, this mechanistic, reductionist view did not take into account the complex interrelationships of the world in which we live. The massive use of pesticides and chemical fertilizers initially expanded the production of food; success encouraged one-crop cultivation that soon impoverished the soil, necessitating an ever-greater use of chemicals. This created a downward spiral of increasing chemical usage and decreasing soil vitality. After boosting crop production and killing unwanted pests and weeds, it became apparent that the pesticides had a long period of continued action on the environment affecting the food chain, water quality, and the health and survival of living organisms (Zucconi, 2008).

Systems theory is based on the awareness of the essential interrelatedness of all phenomena—physical, biological, psychological, social, and cultural. It is a total ecology model wherein the common denominator is the relationship. Systems theory sees all

the structures of our universe as comprised of extensive subsystems that are in constant interaction and impact each other. The ecological, systemic view has relevant implications for the understanding of the health and wellbeing of all the forms of life, people, and society.

What is perceived as real varies from society to society and is produced, transmitted, and conserved through social processes. Our perception of reality is largely modelled on beliefs and assumptions of the society and culture to which we belong. What we know, what we consider true and right, the behaviour we adopt, all are influenced profoundly by the social and cultural and schooling environment in which we grow and live. This process happens through the internalization of a "reality" that occurs during the socialization process (Berger & Luckmann, 1966).

The social construction of reality is not perceived as socially constructed by the majority. Therefore, it is not easily criticized or modified when aspects of it are dysfunctional. A consequence is a recurring persistence on the human history of dysfunctional attitudes and behaviour—both in individuals and society (Zucconi, 2008).

Our relationship with ourselves, others and the world is an important determinant of our mental, physical, and social health. People and societies that are alienated from parts of themselves relate to others and the planet in alienated and distorted ways.

At present, the way profit is calculated in a mechanistic reductionist way, the so-called "bottom line", at the national level is based on the GNP but those standards completely ignore the eventual destruction of human and natural capital.  With a more realistic and sustainable approach, there are at least 3 variables that account for the so-called Triple Bottom Line (TBL) that measures economic, ecological, and social results. The Quadruple Bottom Line (QBL) also takes into consideration cultural aspects, including governance.

The Inclusive Wealth Index (IWI) has a broader way of measuring natural capital, such as forests, produced capital, such as roads and factories; and human capital, including levels of education, knowledge, and creativity. The findings indicate that it is possible to trace the changes in the components of wealth by country and link these to economic growth, taking into account the impact of decline and increase in natural capital as an economic productive base (UNU-IHDP, 2012).

Real economic growth can be attained only through ecologically conscious *green* or *blue* economies (Pauli, 2010).

When change generates a new threat, one-way in which individuals, communities, and cultures can cope with it is by experiencing fear, which in turn generates actions (fight or flight) to deal with the threat.

However, another less functional way of coping can be activated: anxiety. When anxiety is the response to the new threat (fear without awareness of the source of the threat), cognitive dissonance is the result.

Instead of self-regulation and taking actions to deal effectively with the threat, denial, a sort of self-inflicted blindness, takes over.

Denial is a well-known defense mechanism, used in situations in which people feel unable to face reality.

The defense mechanisms of a person or a society can be functional or dysfunctional: they are dysfunctional when the defense becomes chronic, limiting the coping capabilities.

Denial functions to protect the image of the self from awareness of things that the individual feels unable to cope with. But it is also the biggest barrier to coping with reality.

Similar mechanisms are operating in the denial mode about climate change or the destruction of human and natural capital experienced by individuals, institutions, and society.

Awareness of having created the Anthropocene Era and its many black holes of self-destruction not only generates fears and feelings of impotence but shatters one of our strongest held mythologies: our identity. We, the self-appointed intelligent species of the planet, are all deeply invested in the narrative that we are all-powerful, surrounded by unlimited resources, the planet. All animal and plant life forms are created to be at our disposal, industrialization and the consumerist lifestyles to which we have become addicted are a clear sign of our success and are synonymous with our civilization and a measure of our progress. Thus, the confrontation with the realities of the Anthropocene Era throws us into a nightmare.

Norgaard (2009), a sociologist, studied climate change denial in Norway, offering insights into the social construction occurring in that nation.

Norway is a country that has a national identity rich with positive narratives about nature and its nature-loving citizens. Some Norwegians were offered more information about pollution and man-made climate change, including the fact that Norway is one of the European countries with the highest per capita ecological footprint. To avoid the unpleasant truth, many Norwegians disconnect with the facts, they are doing something that they and their culture consider wrong. With this cognitive dissonance, they try to preserve their national identity and their positive mythologies of being a nature-loving nation.

Communicating these issues to society effectively can be quite a challenging task, complicated by several variables among which: Lack of a systemic and interdisciplinary understanding of how the barriers to change are created and how to effectively deal with their abatement or mitigation. Most of the proposed road maps for the governance of the anthropogenic impact and climate mitigation are mainly focused on financial, technological variables, giving little attention to the psychological, social, political, cultural, organizational, and institutional variables (Ekstrom, Moser and Torn, 2011).

Let us take a couple of examples mentioning two of the Sustainable Development Goals, Education and Mental health.

# 1. Mental Health

People are the greatest natural resource of a nation and consequently, mental health has a significant social and strategic role for the individual, social health, and well-being and is

an important variable for achieving the Sustainable Development Goals (Izutsu et al. 2015; Marquez et al. 2016; Black et al. 2017).

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Protecting and promoting mental health also protects and promotes physical health, social health, and prosperity. According to the WHO, mental illness is the largest cause of disability (YLD) in developed countries than any other group of diseases, including cancer and heart disease.

Mental illnesses exacerbate morbidity from chronic diseases with which they are associated: cardiovascular disease, diabetes, obesity, asthma, epilepsy, and cancer. Furthermore, the rates for intentional injuries (homicides and suicides) and unintentional deaths (e.g., from workplace accidents etc.) are two to six times higher among people with a mental illness.

*The Lancet Commission* report on mental health (Lancet, 2018) states that mental disorders are on the rise in every country in the world and will cost the global economy $16 trillion by 2030. The economic cost is primarily due to the early onset of mental illness and lost productivity, with an estimated 12 billion working days lost due to mental illness every year. Mental illnesses generate economic costs of more than 4% of European Gross Domestic Product, some of which are direct costs of treatment, while more than a third are instead linked to lower employment rates and reduced productivity (OECD Report 2018).

Across the 28 EU countries in 2015, the overall costs related to mental ill-health are estimated to have exceeded 4% of GDP. This equates to more than EUR 600 billion. This break down approximately to an equivalent of 1.3% of GDP (or EUR 190 billion) in direct spending on health systems, 1.2% of GDP (or EUR 170 billion) on social security programmes, and a further 1.6% of GDP (or EUR 240 billion) in indirect costs related to labour market impacts (lower employment and lower productivity). Despite these staggering costs, they are still under-estimate, as several additional costs have not been taken into account.

These include social spending related to mental health problems, such as higher social assistance benefits and higher work-injury benefits, and the higher cost of treating a physical illness if the patient also has a mental illness. In addition, some of the indirect impacts of mental health problems on labour market participation such as reduced employment rates or working hours for informal caregivers taking care of people with mental health problems or the impact on co-workers, have not been taken into account.

Some researchers affirm that the magnitude of the mental illness burden is significantly underestimated and affirm that "we estimate the disease burden for mental illness to show that the global burden of mental illness accounts for 32.4% of years lived with disability (YLDs) and 13.0% of disability-adjusted life-years (DALYs), instead of the earlier estimates

suggesting 21.2% of YLDs and 7.1% of DALYs. Currently used approaches underestimate the burden of mental illness by more than a third." (Vigo et al.2016).

The COVID-19 pandemic has increased significantly the burden of mental health and disrupted mental health services offerings (WHO, 2020).

The World Health Organization (WHO, 2018) underlines that the effective way to protect and promote mental health and wellbeing are interdisciplinary and intersectoral actions: "*A comprehensive and coordinated response for mental health requires partnership.*" Sectors such as health, education, employment, judiciary, housing, social welfare, and other relevant sectors, including the private sector as appropriate to the country situation, should work in partnership to support the interruption of negative cycles of poverty, violence, environmental degradation, and mental disorders, with opportunities for action in the demographic, economic, neighborhood, environmental events, and social domains.

For example, an economic crisis can produce mental health effects that may increase suicide and alcohol-related death rates. However, those effects can be offset by social welfare and other policy measures, such as:

- active labour market programmes aimed at helping people to retain or regain jobs;
- enhanced family support programmes;
- available debt relief programmes;
- accessible and responsive primary care services to support people at risk and prevent mental health

In order to provide quality services to protect and promote mental health and well-being, we need to update and upgrade the training of mental health professionals who have been trained with approaches centered on diseases and teaching their patients to be passive, we need to retrain the heath sector professionals to become more effective and creating more sustainable approaches to health, learning and implementing people-centered and health and well-being approaches that defend and promote health by empowering and partnering with their service users. We need to educate the public about their rights and the relevance of their power to protect and promote their health and wellbeing assuming a proactive role as citizens of their polis, empowering themselves, and promoting the creation of services that are person-centered and promote recovery and agency. The World Health Organization has been stressing the importance of retraining health professionals and transforming the health care sector with people-centered care that is more effective and also cost-effective (WHO, 2010, 2012, 2018a).

## 2. Person-centered and People-centered Education for a Sustainable Change

The vision of the UN 2030 Agenda states, "…a world with equitable and universal access to quality education at all levels, to health care and social protection, where physical, mental and social wellbeing are assured." (United Nations, 2015)

Education is one of the most powerful drivers in shaping our future. It is during the educational process that much of the social construction of reality occurs.

Education is the process by which the minds of the new generation are shaped about what is real  (Rogers, 1969, 1983); (Freire, 1970); (Morin, 2007a, 2007b); (Zucconi, 2013, 2015).

It is often said that knowledge is power, but we need a quick consciousness-raising eye-opener and realize that faulty knowledge is poisonous and debilitating, robbing people and communities of the power to cope with reality.

Teaching obsolete knowledge for a society is a lethally effective form of self-sabotage. All life forms' survival depends on effective and rapid learning as to how to adapt their behaviors to environmental changes.

We also know from research that traditional pedagogies do not facilitate learning and that student, person-centered pedagogy is much more effective (Zucconi, 2015).

We need to retool and upgrade all levels of our education and use more effective pedagogies.  Formal and informal education at any point of our lifespan needs to offer us the knowledge, skills and attitudes that will enable us to survive and even prosper in the present period of change by learning the needed skills for coping and governing in peaceful and sustainable ways through the turbulent scenarios of the present Anthropocene Era.

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