Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 56 Issue: 12:2023
DOI: 10.5281/zenodo.10441573

PARADIGM SHIFT IN GLOBAL SCENARIO: PROSPECTS AND THREATS

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Abstract

The evolutionary pathways of social-ecological systems are marked by periods of structural continuity interspersed with convulsive change. Climate change, social disruption, economic breakdown, financial collapse, nuclear confrontation, or pandemics might all cause systemic global shocks in the coming decades. The ongoing COVID-19 epidemic is a real-time example of a break in historical continuity. Deep institutional and cultural upheavals, on the other hand, may quickly bring in more robust forms of global **Civilization.** These realistic scenarios call for scenario studies to focus on discontinuous futures, a requirement that has not been satisfied effectively. Several issues, including gradualist conceptions of change, scientific reluctance, the allure of quantitative tractability, and embeddedness in governmental processes, have rendered standard scenario analysis unsuitable for the task. The emphasis on consistency

Keywords: Paradigm Shift, Global Scenario, Socioecological Systems, Global Civilization, Climate.

INTRODUCTION

What we envision, fear, and desire about the future influences the decisions we make today. These decisions, in turn, create the future that eventually manifests and whether we are capable of meeting the problems of sustainability. Coherent future thinking is an issue of organised complexity that poses fundamental challenges to both science and the imagination. We can only build hazy pictures of potential outcomes and make educated guesses about the consequences of our actions. This imprecision can be attributed to the inherent ontological uncertainty in the dynamics of complex social-ecological systems, epistemological restrictions on what we know and can know, and the vagaries of human volition. As a result, global future studies must go beyond "a narrow bandwidth of scenarios that unfold gradually from current patterns and trends.

History demonstrates that social-ecological systems evolve through periods of relative stability punctuated by disruptive episodes of transition. Surprise and discontinuity play an important role in the evolution of both natural and socioeconomic systems. The COVID-19 pandemic is a real-time example of a break in historical continuity, alerting us

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of the genuine risks of dealing with various forms of systemic disruption in the coming decades. The potentially disruptive nature of AI's different incarnations presents the potential for discontinuities as well. Many people are concerned about the potential for AI to generate social upheaval through the spread of misinformation and disinformation. As we consider and plan for disruptive discontinuity, we should pay closer attention to the repercussions and evaluate potential scenarios.

The threats posed by the global system's rising interconnection and complexity have long been recognised. The advent of populist groups, the expansion of the internet, the acceleration of climate change, and breakthroughs in artificial intelligence and genetic engineering have only heightened volatility and amplified risks. Rapid urbanisation, human migration, economic and financial fragility, and geopolitical conflicts are also key drivers to emerging insecurity. According to a recent Club of Rome research, societal breakdown disruptions will precede and be more severe than environmental collapse. Simultaneously, countervailing developments in production and consumer culture, as well as the expanding quest for institutional forms and human values for a transition to a more sustainable, fair, and just society, are happening, and livable future.

Recognising that these emerging conditions have long-term, unpredictable effects has increased interest in scenario analysis. With the world facing realistic routes of systemic disruption, global scenario assessments must emphasize discontinuity, but this is a challenge that has not been tackled satisfactorily. The COVID-19 pandemic brought the concept of disruptive surprises to the forefront, but concerned about the systemic crisis may fade as the crisis fades, as it did during the "great recession," when many scenario analysts concluded that short-term events would not have a significant impact on long-term patterns. Instead of downplaying surprises, shocks, and bouts of systemic reorganisation when developing global scenarios, we now require a paradigm change that emphasizes such events. Adherence to the myth of equilibrium and smooth change—dubbed the "continuity bias" here—represents a failing of the scientific imagination. This worry has long been expressed in demands to emphasize surprise and discontinuity. Scenario assessments that emphasise on continuity are becoming increasingly disconnected from actual situations, providing a deceptive foundation for informing and guiding decision makers and the public. The discontinuity paradigm creates not only conceptual and analytic space for uncovering the risks lurking in our historical moment, but also avenues for forming a decent global civilization.

We build on the concerns raised in to further explore prejudice and ways to overcome it. Our analysis and conclusions are complementary to those of, who thoroughly investigated constraints and constraints in power system models and scenario studies. Nilsson et al. focused on environmental and social changes in the Arctic; Keys called for greater attention to social shocks in future climate scenarios. To this end, we first describe the situational and situational approach to growth in global social and environmental assessments. The causes and consequences of continuity bias are analyzed. It concludes with an exploration of the new project direction and a final discussion of the speed of model change.

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THE SCENARIO APPROACH/ OBJECTIVE

The example reminds me of some of Yogi Berra's apocryphal quotes: "It's hard to predict, especially about the future" and "And Next year won't be the same as last year." Although we cannot predict the future, ideas about human mortality are widespread in all cultures. In the modern context, the realization that short-term choices have long-term consequences has brought the “problem of the future” to the center of research and policy. The challenge is to foresee, plan and shape the future in the sense of understanding and adapting actions.

The future course of social systems is unclear because there are three types of shocks: ignorance, shock and desire. First, the lack of knowledge about the current state and dynamics of the system leads to serious epistemological uncertainty, even as the system emerges. Second, complex systems are not deterministic. In other words, they can represent different areas, the emergence of new areas and the creation of structures. Third, future paths may depend on choices people have not yet made in response to situations that have not yet occurred. These extreme uncertainties undermine any hope for meaningful scientific predictions of the world's long-term future. The scenario approach evolved as an alternative way of imagining, considering and analyzing a range of perspectives and possibilities. In general, a scenario is a story about the future that can be told using words and numbers, providing an internal and clear explanation of how events will happen and how, or the shape of the future. In fact, some simulations relied heavily on qualitative descriptions, others on quantitative modeling, and others on a combination of the two.

By interpreting "future history" to understand what current scientific understanding can and cannot tell us, case studies can offer a more normal view. As they do so, they explore different outcomes that arise from different assumptions, different developments, and different choices and responses to new situations. This can help current efforts by identifying critical issues, uncovering new risks and opportunities, and providing robust responses that will be effective well into the future. For this, the scenarios must be clear in their purpose and learning objectives and be clear in the ways in which they were developed. Scenario analysis considers a number of immeasurable futures, expanding the range of possible outcomes without assigning mathematical probabilities.

Hypothesis 1:

Disruptive changes play a critical role in shaping socioecological systems.

Null Hypothesis (H0): Disruptive changes have no significant impact on socioecological systems.

Alternative Hypothesis (H1): Disruptive changes significantly influence socioecological systems.

Hypothesis 2:

The current global scenario assessments lack adequate consideration of potential disruptive events.

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Null Hypothesis (H0): Global scenario assessments effectively account for potential disruptive events.

Alternative Hypothesis (H1): Global scenario assessments do not sufficiently consider potential disruptive events.

RESEARCH METHODOLOGY

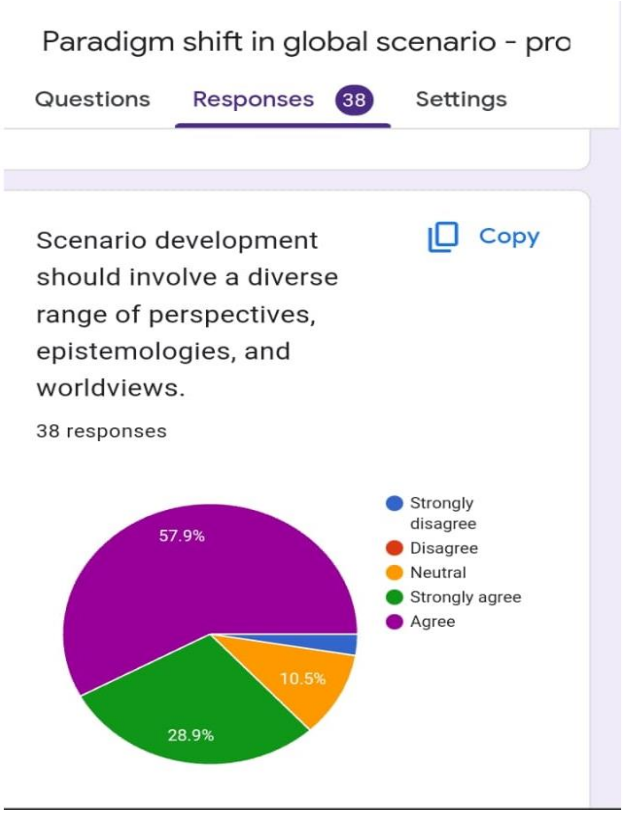
This research paper, may involve a qualitative research approach with elements of conceptual analysis, scenario building, and literature synthesis.

The research is more likely exploratory or conceptual in nature, focusing on understanding complex, interconnected systems and potential disruptions.

Both type of data primary and secondary used, data drawn from existing literature historical perspectives and questionnaire

Link of Google form to collect information through questioners

https://docs.google.com/forms/d/e/1FAIpQLSfpK2ZgQcH3YDxxoOWeRNl8JZ_LR9IAQkWv1sdwkQU5Rh5Nmw/viewform?usp=sf_link



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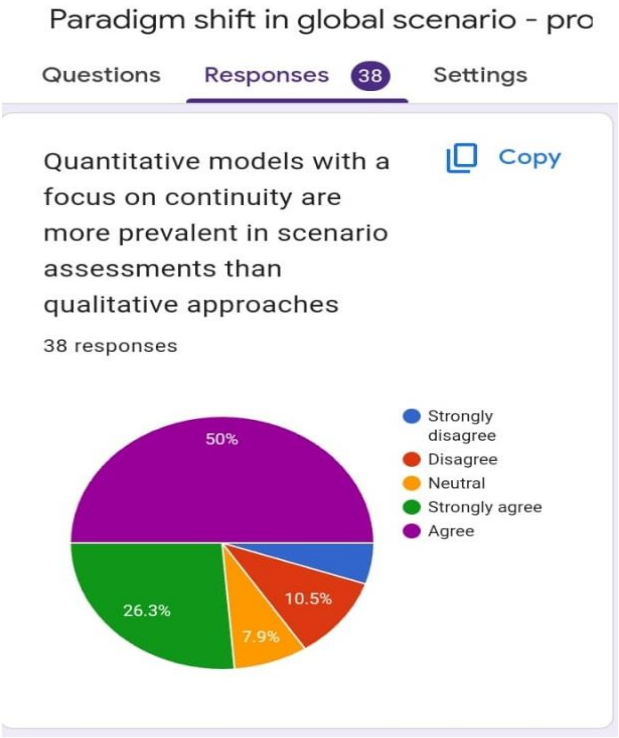

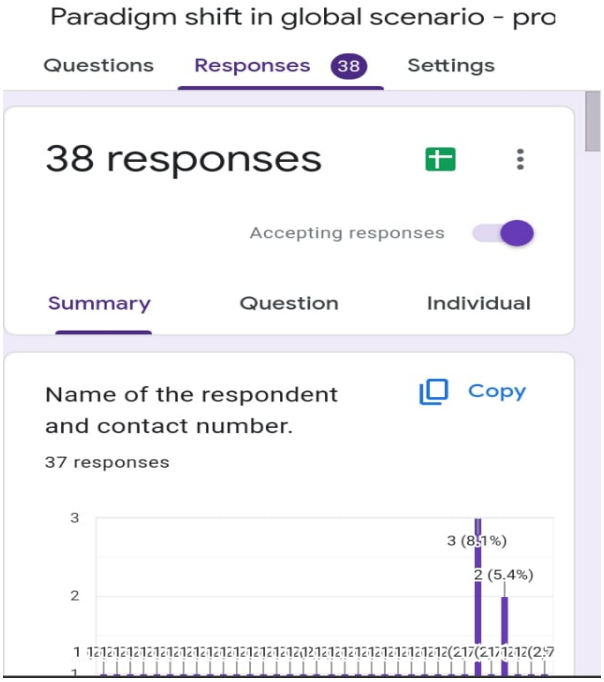

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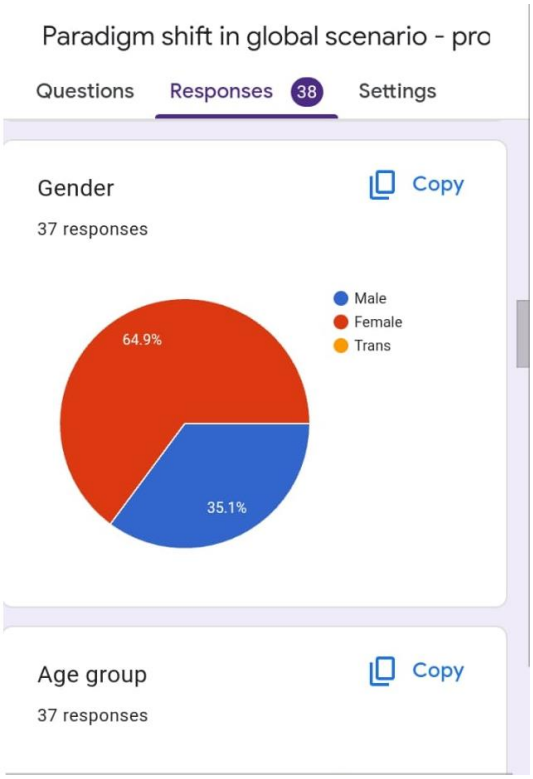

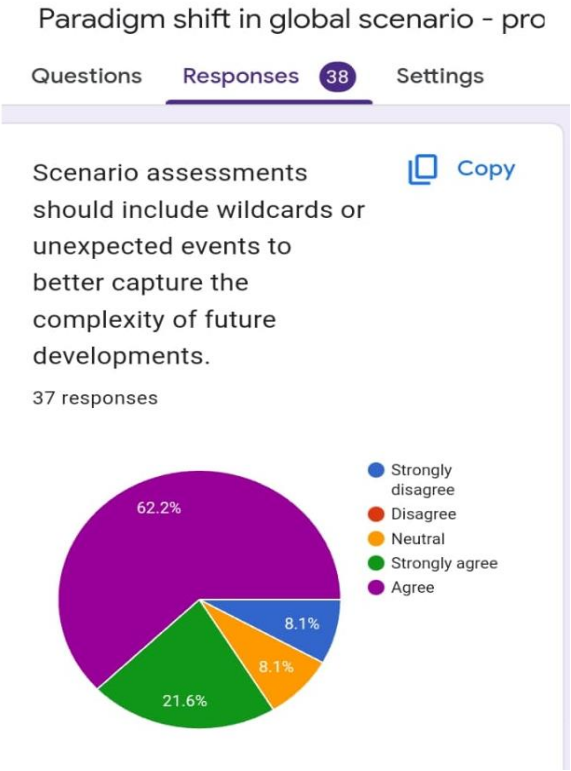

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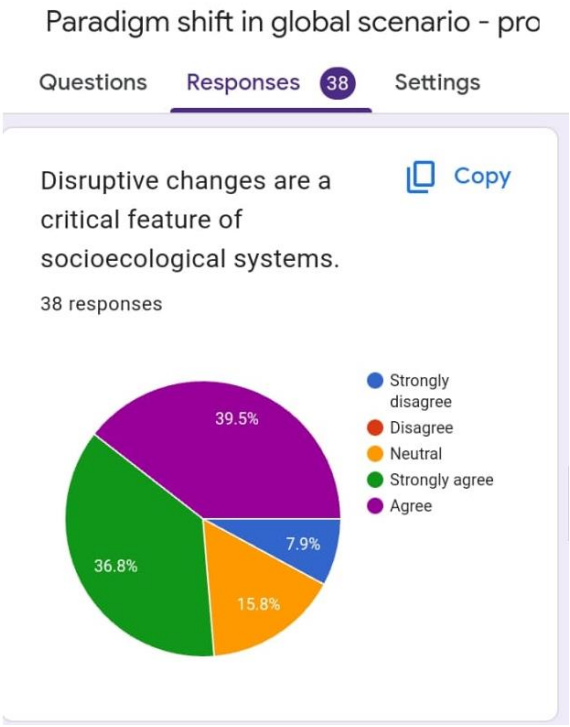

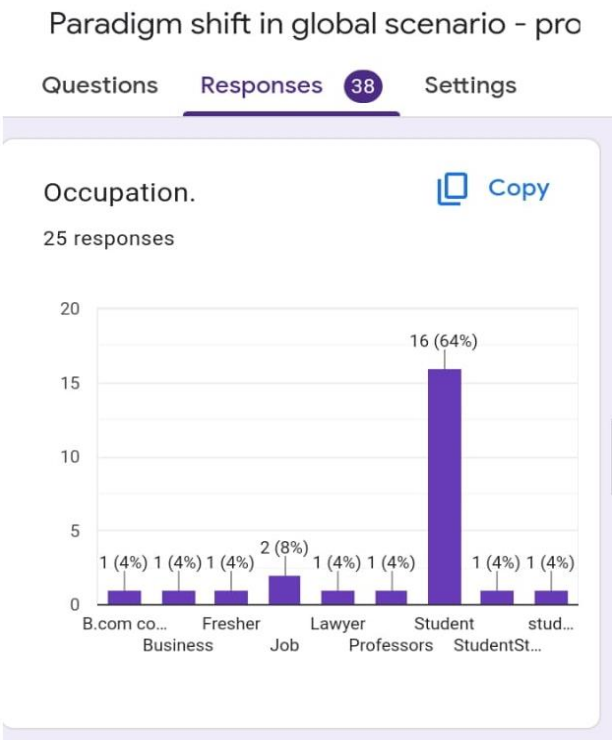

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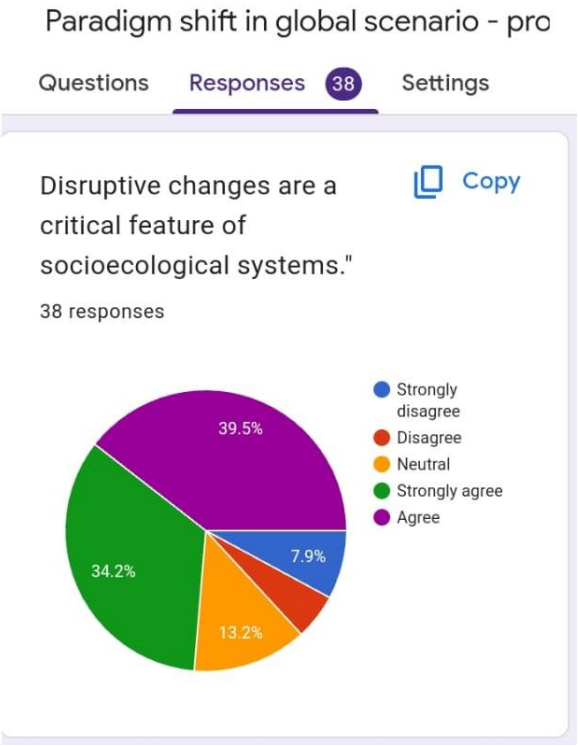

LITERATURE REVIEW

Global scenario research data includes failure acceptance and ignorance periods. Two anonymous reviewers rightly stated that, in our opinion, caution should be exercised in situations such as business and the military, where the importance of emergencies and non-trips is important, however, as shown in pending, agile management and business continuity will also be discussed. This may be worth considering in future studies. Previous contributions showed the characteristics of a great social change when the analysis of the scenario obtained from the buy-in in two parts and separately. In the 1980s, mixed trends declined as attention shifted to partial forecasts of population, energy, agriculture, and other topics. This usually indicates a continued trend with some deviations around the main trend, a normal business forecast.

PROBLEMS/ INSTITUTIONAL CHALLENGES

However, a thorough review of demographic, energy and agricultural forecasts over time indicates that there are no surprises ahead. As proof of the power of the analysis, they described several types of shocks. This research reflects the growing scientific understanding of the many transformative changes in the evolution of social and environmental systems. In the 1990s, the Global Scenarios Group (GSG) was formed in response to growing interest in long-term sustainability. GSG, the psychological alternative to earlier efforts to focus on prevention, developed three types of situational flows. The condition of the "modern world" reflects the continuity of the structure. The

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"barbarization" type refers to highly degraded social structures and environmental conditions. And the phenomenon of the 'Great Transformation' suggests a way for the world to flourish. Raskin and Swart return to the GSG framework to draw current insights and lessons. On the other hand, other important work during this period, such as the Intergovernmental Panel on Climate Change (IPCC) remained in the conventional world, with subtle changes in population, gross domestic product (GDP), the penetration of technology and the spread of technology and other variables.

In the early 2000s, formal situational assessments expanded to include more topics and issues and more geographic information. The IPCC Special Report on Emissions Scenarios (SRES), the Millennium Ecosystem Assessment and the Third and Fourth Environmental Programs (GEO) of the United Nations Environment Program presented a set Focus on the past, not the future. Instead of looking at trends and big changes, the focus is on a smooth path from now on. SRES eliminates the notions of "external", "surprising" and "accidental" phenomena in the literature. Continuity can be seen in the measurement model requirements and algorithms. After a period of relaxation of phenomenology, the 2010s saw a renewed interest in phenomenology, especially in the context of climate change research. Although the new features display a wider range of information, continuity and quantitative simulations have been maintained. Others called for more attention to avoid the development of social economic opportunities (SSP) that are key to the new climate, including "faster than expected technological changes, changes or radical changes in the political landscape". Lane and Montgomery expressed concern that "the whole story will run like clockwork for the rest of the century." But in the end, these requests were ignored.

This broad historical overview presents an attempt at an ontology of resistance in the case studies, but not an effort to transcend ongoing bias. Only the set of GSG scenarios shows the configuration failure of the world's socio-environmental systems in the 21st century. Therefore, the GSG typology of scenario archetypes has become a useful framework for observing the elements of different characteristic functions. However, in almost all cases, especially in measurements, the determinism is weak and at best remains a reduced version of the original GSG condition.

Why-The-Gap/ Causes

Based on our collective experience, we identify four key factors that help explain the lack of attention to disruptive change in scenario assessment: conceptualization, scientific lag, political involvement, and having a measurable opportunity. We think about them. First, the emphasis on continuity comes from ontological and/or epistemological considerations. Brooks defined it as an intervention in "evolutionary models, that is, the gradual evolution of the world's systems in ways that can be explained by surprising models". Long-term tracking of past shocks and disruptions will leave long-term trends visible after the return and relevant for the near future. Second, a strong interest in phenomena associated with rigorous science leads to a sense of scientific existence. Hard scientific methods forgo the kind of foresight and creativity that the challenge of long-term discovery requires. Van Noten et al. points out "most of the negative impacts of the

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resistance concept for situational creators". Requiring specific evidence for specific claims makes sense in many situations, but the situation is not tested by "evidence" in the traditional sense. Instead, they gain purchasing power through imagination, quality knowledge and communication about the world we want. The irony here is that, in the context of the situation, scientific backwardness leads to bad science by drawing attention to the possible future, that is, the continuation of historical information. Rather, deterrence must be in the theoretical practice of any valid science. A third factor, political relevance and importance, reinforces philosophical preferences and scientific backwardness. The scope of evaluations in policy making is limited by political consensus and short- term perspectives. National governments have been heavily involved in many assessments. The need for consensus among risk policy makers in different countries limits the creativity of the scenarios and prevents imaginative titles for the IPCC SRES scenarios. However, the MA's non-governmental organizational structure allowed for greater reach. The SSP process is less formally structured than previous efforts on climate change, but the main participants are not deeply involved in the barriers of the previous intergovernmental process. The last element is the mathematical tractability trick. As points out, this is possible with the "lack of methods that can be used for the management of interruptions and emergency events". In the vacuum, quantitative models, characterized by past-fixed and future-fixed equations and parameters, became dominant. The increased emphasis on predictive measurement and the appeal of certainty has diverted attention from explaining the qualitative aspects of dramatic narratives. In practice, the information is often developed using quantitative models, including most of the authors of the SSP report and the authors of the article describing it. The measurement of scenarios was based on models called integrative assessment models (IAMs), which are characterized by continuous mathematical descriptions. Despite the inability of IAM to model social change, it remains a critical means of understanding systemic change and informing policy related to these changes.

These limitations limit our ability to propose alternatives, including deep cultural and institutional changes, to achieve the firm resolution required by the Paris Agreement. These models, compared to previous models, do not recognize structural divisions and the spectrum of possibilities for the future world.

Consequences

The actions and decisions of current actors are influenced by their perceptions of the future. When scenarios represent narrow horizons for the future, probability is a limited list of expected changes in behavior and decisions. These changes include measures to reduce lethal risks. For example, Brysse et al.notes: "If climate scientists and forecasters err on the side of the least dramatic in their predictions, they are mistaking what the worst-case outcome is, thereby failing to prepare policymakers and the public for the worst." of the cases. BE". It also hinders understanding and action towards a better worldview. Beyond policy areas, the persistence of bias can shape public perception and influence discourse. The public can influence policy and, more importantly, influence cultural and political change. The strength and quality of these efforts can be enhanced or hindered

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by the quality of critical information about where we are and where we want to go. When experts present a picture of what is necessary or possible, they reduce social assumptions and have a conscious opportunity to avoid the negative and achieve desired outcomes. Finally, it does not show the important aspects of socio-ecological system dynamics, such as structural adjustment, instability thresholds, binary phases, and emergent properties, weakening scientific understanding. The COVID-19 pandemic, which is a future outbreak, will make the importance of early prevention even clearer. In addition, other system shocks are more mature or hidden in social norms. Going forward, the validity and reliability of scenario assessments depend on accurately communicating the risks and opportunities for fundamental change to decision makers and the public. The current crisis has spurred research into the nature of the epidemic, but help is finally coming.

Solution

The way forward, these scientific, political and public findings make it clear that it is far from time to overcome the ongoing bias. We need to change the paradigm: A break in the practice of global situational analysis. The new model emphasizes structural changes, divergent paths and different visions of the future. This will facilitate the development of new qualitative and quantitative analysis methods for the future. Rather than relying on simple changes in population, GDP, and technology, we can see a variety of factors shaping the future: human values, power structures, group behavior, and cultural change. Renewing ideas and practices is not an easy task. Indeed, scholars must think critically about past work, recognize challenges, and discuss innovative ways forward. These open processes cannot have a master plan or an action plan. However, we can define some general guidelines. First, it expands the feature developer base to include a wide range of methods, functions, and perspectives. Second, we explore new measurement methods that are relevant to inhibitors. Thirdly, it will improve the game to increase the high quality features and freeways. Fourth, explore ways to prevent the scientific and political biases that undermine creative thinking about the future, including professional ethics.

These guidelines are provided below.

Previous reviews have warned that the participants in the development of the scenario are too broad. To create informative and effective situations, Bennett and Zurek [71] call for integrating epistemologies and integrating different perspectives. Similarly, Wilkinson and Eidinow [72] argue that the “dangerous problem” of global environmental change requires a reflexive approach that embraces a variety of worldviews and knowledge. On several axes, Mach and Field [73] recommend more interaction between experts and decision makers.

Kuhnhenn [74] recommended that additional languages from outside the Northern Scientific Community be included. Some suggest undermining the power of neoclassical economics through public demonstrations [75,76,77]. According to Rayner and Malone [78], social scientists and "interpretive" anthropologists are increasingly involved in incorporating analyzes of social, cultural, and religious systems into dramatic history. A

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recent example can be found in the Geoengineering Scenarios project sponsored by the National Center for Socio-Environmental Synthesis (https://codecprs.sesync.org/research/geoengineering-scenarios (accessed 4 July 2023)). Proceedings of the Arizona State University of Science and

Technology, https://csi.asu.edu/ (accessed 4 July 2023). In terms of methodology, Scheele et al's proposal is useful for examining "specific ontological and epistemological commitments in methodological choices for scenario development". These commitments create phenomena that are explored and accepted as true, tending to emphasize predictions based on exploratory, methodological, and model-based methods rather than descriptive methods. These choices affect the intersection of factors in the policy-making process. To encourage reflection on gaps, we emphasize the importance of detailed descriptions. Developing new quantitative analysis methods that are compatible with scenario analysis is an interesting challenge. A good first step is the call by Mach and Field [73] (p. 17) to "identify the quantities missing from the model, such as path dependence, context determination, vibration and rotation, and low economic results".

The next point is that, fortunately, established models are not suitable for tracking structural changes. It is assumed that the future state of the system can be simulated using mathematical relationships established between gradually varying parameters, dependent variables, and independent variables. Algorithmic continuity is not valid for representing non-zero system paths. These approaches are best thought of as a stable "before" and "after" that are separated by stages of modernization. This invention has two important implications for the next generation of measurement technologies. First, a successor country emerging from a socioeconomic break may need additional mathematical information from the predecessor country to reflect changes in culture, values, institutions, and climate change. Second, the process of structural adjustment itself is emerging and surprising.

As continuity is applied to existing models, new modeling approaches are gaining attention. Dinize et al. and Jetter and Kok proposed using fuzzy cognitive models to simulate fundamental changes. We also recommend considering system dynamics and client models, which can better handle the complex and unpredictable problems of formal models. Although most of these activities are sub-national and involve local stakeholders, opportunities to gain experience in developing international situations should be explored. The overall goal is to disrupt the scene descriptions and dynamics. The popular 2 × 2 matrix approach involves simply varying one or two key parameters that do not reflect changes in the overall system. Instead, a rich theoretical framework is needed to describe highly incompatible future situations that cannot be expressed as variations on a single baseline. For example, the GSG framework introduced above integrates qualitative and quantitative explanations to account for the deep divisions between futures. Another new source is to test the robustness of characters by introducing wildcards to see how they change. For example, Spangenberg et al. included earthquakes (including epidemics) to show the limits of linear extrapolation.

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Hughes et al. examine the quantitative impact of low-probability, high-impact shocks on demographic, economic, and energy models. and Pedde et al. link SSP to a number of wildcards to inject chaos into long-term inflationary changes, including global pandemics and Internet crises. Finally, we call for the examination of new methods of professional practice to find methods that appropriately balance silence and expression of concerns. Given the magnitude of the implications, scenario experts have an obligation to inform policymakers and the public about the full potential of the future. The paradigm shift here can bring about previously forgotten situations, from devastating defeat to hopeful change.

CONCLUSION

Disruptive changes are not an anomaly but a critical feature of socioecological systems. As the world changes rapidly and its impact increases, revolutionary and disruptive changes are everywhere. Climate change is a manifestation of the human ability to change the natural and human world. COVID-19 and the Great Recession that preceded it are the latest shocks that clearly show failure. This is probably the tip of the iceberg. In other words, we are witnessing a transition from an age of ice to an age of fire,[91] and people in New York City can learn from the experience of climate change through breathing difficulties caused by smoke from wildfires across Canada. However, socioecological factors undermine the prospects for permanent change, including systemic collapse, global dominance, and global renaissance. Sticking to a current perspective ignores the power of a situational approach to thinking about the future.

The dominance of incrementalism in mainstream research is based on ontological and epistemological configurations, the nature of science and politics, the application of mathematical simplicity to modeling, and respect for measurement in qualitative terms.

The consequences of limited transparency in scientific assessments are not trivial: problematic science, misleading policy advice, and limited public awareness. In an increasingly restrictive world, interconnected situations can quickly be disrupted by unexpected developments. It is time to begin serious efforts to overcome the ongoing bias and develop a new model that emphasizes resilience in international situational research. To promote change in theory and practice, greater diversity should be included in the setting of the setting. More attention and resources are needed to enrich the drama. Quantitative approaches to trends do not always require methodological innovation.

This process allows the use of tools and techniques developed in real situations investigating sharp obstacles and vibrations. The concerns we raise about the way forward are not new, but they continue to grow. The inability to understand the uncertainties in an increasingly fragile world is a reason to sound the alarm again.

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