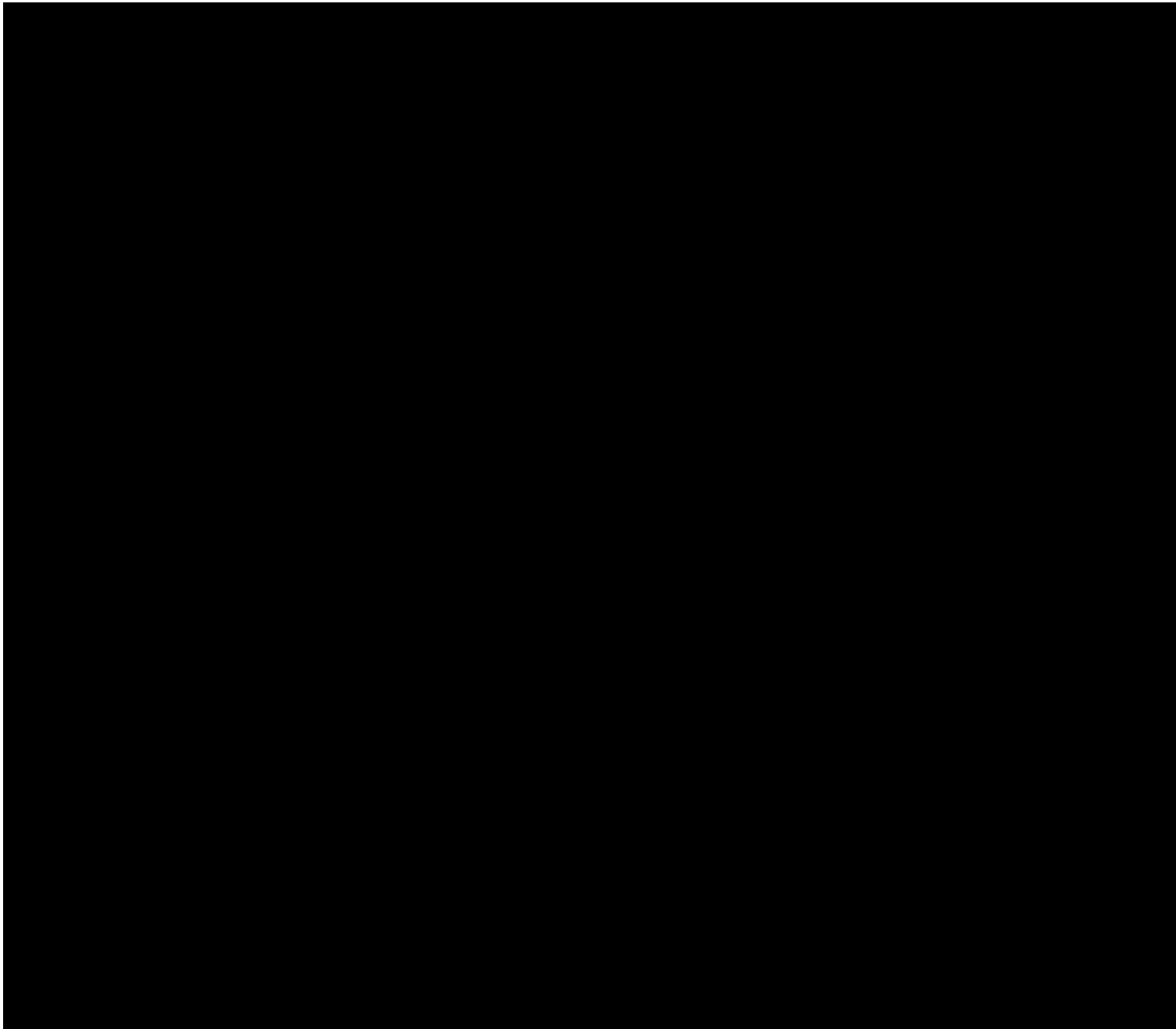


The Great Sustainability Challenge



The balance between society and nature is askew. The age of industrialization and the subsequent era of consumerism are large culprits for pollution and the degradation of the environment. Human activity on Earth has undeniably affected the planet and has contributed colossal levels of carbon emissions that are pushing global temperatures to keep rising. Significant ecological risks to human survival may result from not taking more pressing action. Governments have a role to play in moving more rapidly and effectively towards more sustainable practices – “how to be more sustainable?” is a question that must be integrated in all decision-making processes.

While agrarian modes of production also faced sustainability challenges, the magnitude is immensely greater for contemporary industrial models. A society's interaction with nature must be balanced in all modes of production – not to preserve the often romanticized notions of wilderness or conservation, but rather because significant imbalances are bound to result in severe social problems. The reverse is equally true: imbalances in terms of social justice often lead to imbalances in the society-nature exchange that feed back onto society in the form of social problems. As a result, social and environmental policies for managing current problems and addressing future hurdles are intricately intertwined.

All production involves the use of natural resources that are transformed into products that are needed or wanted by humans. Never before in history has this transformation and distribution of products been so vast. Never before has this process been organized in such complexity drawing upon a multitude of sciences. The systemic complexity of production processes and societal consumerism has become a risk to sustainability. Significant social upheavals could result from discontinuities, shocks and bottlenecks within the system – popular revolts are on the rise; environmental disasters are increasing; drastic changes are underway that require a more sustainable approach.

Latin America and sub-Saharan Africa have emerged as the regions projected to reach the highest share of renewable energy over 50% in 2030.

The Society-Nature Nexus

The lack of a sustainable system has created a sense of urgency to bring the society-nature exchange into balance and to make the complex production and social system of industrialized society more resilient. To optimize resilience, populations could – wherever possible – meet their own needs with resources from their region. This would translate into emphasizing the importance of “the local” over “the global”: local self-sufficiency vs. global dependency; local production and exchange patterns based on tight circularity in exchange; local alternative currencies for reinforcing local economic circularity; local and urban agriculture for food sovereignty; local conservation of resources; and local autarchy in energy and other pertinent resources.

To balance our society-nature exchange, the volume of resources flowing into the production process must be drastically reduced and those resources and products will have to be used more often before they are returned to nature through

various modes of recycling. This means consuming fewer resources and consuming them more efficiently. Reducing the volume of emissions back into nature alone will not suffice. Qualitative decisions will also need to be made as to what kind of emissions will be produced. Some emissions (gases, chemical products, nuclear substances, nanotech materials, genetically modified goods) can be better appropriated by nature, thus allowing for more balance in the society-nature exchange and for less negative impacts on society and the environment.

Envisioning a production system that uses fewer resources has caused some new and not so new discourses to emerge. New is the discourse around “decoissance” (or “degrowth”) whereby the production system shrinks at a given rate while also being transformed. Somewhat less new is the discourse around “zero growth” which also assumes that the production system must be adjusted. Since the capitalist money accumulation strat-

egy is built around positive growth it would not be able to “survive” in zero or negative growth environments and would in turn also need a transformation. The call for qualitative measures of “growth” and “well-being” such as the Human Development Index (HDI) is now being revived and implemented by NGOs and policy-makers.

The application of the polluter pays principle could foster more solidarity than the shared burden approach in dealing with environmental and social problems. The polluter pays principle is anchored in an ethic of responsibility that permits no one to inflict

harm or pass costs onto others. Actors are expected to behave in a responsible manner and be held accountable if they do not. The polluter pays principle runs counter to capitalist market economies within which profits and capital accumulation often represent gains made at the expense of others due to socio-environmental negative impacts. At present, social and environmental policy relies too heavily on the shared burden approach in mitigating the burdens imposed by negative externalities. Unfortunately, this outdated “welfare state” notion frees irresponsible, unethical actors of assuming responsibility while depleting public funds.

Image (p.10-11): Applying post-emergence Stomp pesticide in Nottinghamshire, United Kingdom.

Source: Chafer Machinery/Flickr.

Image (this page): Canola cultivation, Binalong, New South Wales, Australia.

Source: Jan Smith/Flickr.

A Sustainability Policy

A serious transition towards social and ecological sustainability will require much more proactive policies and an overall policy paradigm shift. Social problems are generally dealt within one policy corner and environmental problems in another. The tendency

to separate these very significant and large policy fields must be corrected. Environmental policy can (and should) be thought of and practiced as social policy – and vice versa. Tremendous benefits are to be expected if sustainability is the goal.

Conversely, any separation comes at the cost of policy efficiency and positive impact. One policy domain may explicitly or implicitly counteract – or even outright “sabotage” – the other. Under these circumstances, sustainability – an often and highly acclaimed goal – becomes simply rhetoric. For instance, funds to deal with social problems are often derivatives of economic growth. More quantitative economic growth leads to more available funds. But this mechanism may counteract efforts by environmental policy to contain the environmental damage caused by quantitative economic growth.

The need to regulate human interaction with nature through environmental policy is in many instances directly connected to social risks, human survival, and to social

and economic change, all of which are vital to social policy. Many more examples show how social and environmental policies are intricately interwoven in both specific issues and the macro policy frameworks. Yet few efforts are under way to discern the social policy implications of environmental policy and to think and practice the two policies jointly in one integrated field of sustainability policy.

Other policy fields could greatly benefit from interacting in a trans-disciplinary manner. Most academic fields and disciplines should ask how “their” knowledge relates to issues of social and environmental sustainability. Understanding that sustainability cannot be attained without coordinating environmental and social

policy will certainly lead to more holistic approaches in politics and policies. This new vision will inevitably lead to new ideas for how the two policy fields can be merged into one. This calls for a paradigm shift.

Reliance on techniques like Environmental or Social Impact Assessments is no longer adequate, since they tend to focus uniquely on local or regional cases without applying social and environmental criteria. The new sustainability policy paradigm suggests that environmental and social policy be synthetically combined and that this trans-disciplinary act be complemented by other academic disciplines asking: “How can we contribute our knowledge to a more sustainable society?” “What knowledge inhibits or obstructs a more sustainable society?”

China’s per capita energy use is just $\frac{1}{8}$ of the United States and $\frac{1}{4}$ of the European Union, but could double or triple in the next decades.

Cross-Sector Practices

Sustainability is defined as a societal pattern of interaction with nature that assures a very long-term output and distribution mode sufficient for all to live in dignity and in accord with the average longevity of human life. It is evident that many academic disciplines are strongly intertwined once sustainability becomes their focus. Sustainability can thus only be discussed, researched, planned and implemented under a trans-disciplinary perspective and practice.

All academic disciplines and curricula need to be examined for their relevance in terms of sustainability. Do their research and teaching tend to magnify sustainability problems or help mitigate them? How do they contribute to transitioning society to sustainability? Sustainability would become a cross sectional perspective similar to the notion of gender. There, too, the need to reflect on dimensions of gender in all we think and do has been seen as a necessary component in transforming gender relation patterns.

Science and technology are deeply embedded in our capitalist system and in its pursuits of production and consumption. They serve as the knowledge-base for transforming nature into products and services. Thanks in part to this knowledge-base, the global economic process has been able to attain its complexity and highly out-sourced and intricate division of labor, characterized by horizontal and vertical dependencies based on inequality and exploitation.

Energy consumption would have to be cut to between one fourth and one tenth of the energy consumed today, back to roughly the levels of the 1950s. Most energy reduction efforts would have to come from the core of the industrialized world, about one billion people, as well as another billion in industrially-emerging countries. The remaining 5 billion of the world’s population already consumes energy at sustainable levels, and their per capita energy consumption could even be somewhat increased.

Since the output of the industrial production system is a function of energy, about 5 billion of the world’s population is far removed from industrial societies though they may contribute natural resources or agricultural products to others who live in full or emerging industrial societies. The 5 billion live in needs-based production systems – the back-bone for any form of sustainable future given present and projected world population figures.

To implement the energy transition to better practices, we need a scientific knowledge-base that is applied in social and environmental policy and includes sustainability as an overarching cross-sectional policy. Roughly 5 billion people on this planet living mostly in need-based economic systems are moving towards more sustainable ways of living, even after accounting for the negative spill-over burden emanating from wants-based societies of industrialization and consumerism. A paradigm shift is underway and sustainability is at the very epicenter of the emerging model for cleaner economies. ☀