



# To Have or Have Not

## Resource Equity in a Finite World

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## 1. New challenges within old limits

### ***Overuse and “planetary boundaries”***

One of the great challenges of the 21st century is to bring about global equity without further overstepping the planet’s ecological limits nor overusing the earth’s finite resources to the extent that future generations are deprived of the opportunity for shaping a sustainable and equitable social coexistence and the associated economic and production patterns.

Social equity is inseparable from ecological sustainability. Inequitable distribution and overuse of resources, both domestically and internationally, is one of the key reasons why millions of people today live below the poverty line, while at the same time the earth’s sustainable ecological limits have long been exceeded.

Our economic growth in the last 200 years has undoubtedly contributed to reducing poverty globally. Nevertheless, more than one-seventh of the world population still lives in absolute poverty and hunger. As rising economic prosperity and population growth heighten the demand for resources, the world moves ever closer to a state of “peak everything”. This graphic slogan implies that not only the peak extraction levels of fossil oil, gas, uranium, phosphorus and rare earths have already been reached, but as well a decreasing availability of renewable resources like land, water and biodiversity<sup>2</sup> despite additional investment in the use of marginal reserves. Even though some reserves – not least coal – will not run out soon, it is high time to acknowledge that the use of one resource is connected with that of many others as well as with the social and environmental crises we are facing. In most cases our resource consumption has already drastically overreached the limits of the earth’s carrying capacity.

This includes that the substitution of one scarce resource by another is becoming increasingly difficult as well as unsustainable in general. For instance, the availability of arable land has fallen sharply in the last 50 years from 0.45 ha to less than 0.25 ha per

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<sup>2</sup> Calling Land, Water and Biodiversity renewable resources limits nature to part of its function for human services. Nature is much more than a resource but has a value in itself that cannot be expressed through ecosystem services or monetary value.

person. In theory, one answer to this increasing land scarcity could be to raise production per hectare by farming more intensively. But whereas during the first green revolution some experienced it as valuable to use oil-intensive inputs like nitrogen fertilisers to make up for limited land, nowadays this is no longer an option: not only from an environmental perspective but as well because in parallel with land scarcity, fossil oil reserves are also growing increasingly scarce and expensive. In fact, many industrial countries today are promoting the use of land intensive agricultural products to produce fuels and energy in the attempt to substitute fossil oil, a scarce and highly sensitive resource in terms of global power politics, with a seemingly unlimited supply of biomass. The fact that biomass production is itself limited by the availability of land and water is frequently ignored.

Since the global production model is based on the extraction of resources, the depletion of increasingly scarce renewable and non-renewable resources undermines the basis of our current (fossil-fuelled) economic prosperity. Yet there is seemingly little appetite for a fundamental rethink of the global economic and production model, and an ever-stronger inclination to extend the extraction of fossil and renewable resources in spite of high ecological and social costs and risks. As a consequence agriculture is being practised on steep mountain slopes in the Ethiopian highlands, despite the risk that the humus topsoil will be eroded away in just a few years. In Canada, oil is being extracted from tar sands across an area the size of Great Britain. The Canadian government appears reconciled to the fact that it gives large swathes of the country the appearance of a lunar landscape and makes a farce of climate change mitigation. And a disaster like the Deepwater Horizon explosion has not led to a long-term moratorium on deep-sea drilling – far from it: the Brazilian government is taking it to further extremes by drilling into 7-km-deep oilfields below a 2 km layer of salt off the Atlantic coast.

The serious ecological consequences of the unsustainable use of fossil and renewable resources are revealed by the “planetary boundaries” approach of the Stockholm Resilience Center (SRC). Planetary boundaries are used by scientists to define the global biophysical limits of safe scope for action within nine domains. Already these boundaries have been dramatically exceeded in the domains of biodiversity loss, climate change, and the fixation of nitrogen from the atmosphere and subsequent discharge into the world's aquatic systems. Other planetary boundaries defined by the SRC – such as ocean acidification, land-use change, nitrogen and phosphorus inputs in fertilisers, water consumption, and environmental and air pollution – also indicate a dramatic level of pressure.

Even though the planetary boundaries model is still in its infancy in scientific and methodological terms, it does pave the way for studying and analysing the world's major ecological problems in an integrated and comprehensive perspective. The approach also enables us to examine future economic developments and technical innovations with regard to their impacts on each of the variously defined boundaries of our planet.

### ***When different crises coincide***

The ecological consequences of our current resource consumption are well described by the planetary boundaries approach; what it leaves unresolved is the social and human rights dimension of resource usage. The social repercussions of inequitable allocation and overexploitation of resources can be felt both directly and indirectly. Direct impacts include the displacement of people as a result of major projects such as dams, mines (often in already water stressed areas), forest clearances, or contracts for the sale or lease of large areas of agricultural land. No less dramatic are the indirect social effects; for example, the effects of biodiversity loss or the impacts of climate change generate new social imbalances, shift economic power relations and destroy resources on which people's lives depend.

Ecological and social crises worsen when they coincide with an economic crisis, since the latter amplifies the crises on the other two dimensions. For example, the financial crisis and the resulting instability of financial markets have pushed investors further towards renewable resources like land and foodstuffs as alternative investment and speculation assets. In practice, this contributes to highly volatile food prices and sometimes dramatic price increases, which mean that many poor consumers, who often spend 50 to 90 percent of their income on food, are no longer in a position to buy enough to eat. In the year 2008, the number of people living in hunger passed the one billion mark for the first time. Even though international data indicate a slight decrease in global hunger in recent years increasing prices for agriculture products in 2012 might lead to an increase in food insecurity again.

Yet speculation in land and food is only one reason for the high prices of agricultural products. Other reasons are the growing demand for animal feedstuffs, the rapid rise in demand for land for extractive industries, massive demand for agricultural products for energy and fuels – used by the EU, for example, to meet its climate targets – and the reduced supply of foods on the global market due to the growing frequency of weather extremes (e.g. the 2012 drought in the USA).

At this point, the problems come full circle because the rising demand for agricultural land has caused a four-to-fivefold increase in its value over the last six years. As a consequence, new agricultural land is being cleared and grassland converted into arable land – as in Argentina, for example – or bush steppes and rainforests razed to the ground – as in Brazil – to provide new grazing and arable land. Land-use changes of this nature frequently give rise to dire social and ecological consequences, including the displacement of small-scale agricultural producers from their land, loss of livelihoods, loss of biodiversity, greater use of nitrogen and phosphate fertilisers, and tremendous emissions of CO<sub>2</sub>.

It is clear from the findings of climate research, however, that only a minimal chance of avoiding dangerous climate change remains before we cross certain tipping points in the global climate system. Once such points are crossed, the consequences are no longer within our control. Hence, global emissions need to peak within the next few years and must then fall dramatically. By the middle of the century the global economy – and that means in all

countries – must be almost entirely decarbonised. Trends in the real economy point in a different direction though: emissions are rising, the CO<sub>2</sub>-intensity of our production and consumption is increasing, and multinational corporations are constantly acquiring new fossil reserves.

### ***Lack of mandatory regulation***

No adequate multilateral regimes governing the use of land, forest, water and scarce mineral resources are in place. There is no convention on land, forest or water that defines their usage in terms of planetary boundaries and human rights. In fact, not even the Convention on Biological Diversity does this. On the contrary, a sustainable global resource governance framework is a remote prospect. The instruments that do exist rely mainly on companies to adhere to voluntary standards.

Voluntary multi-stakeholder initiatives such as the Extractive Industries Transparency Initiative (EITI) or the Kimberley Process have albeit created public interest in the issue by adopting very narrow objectives and involving many relevant stakeholders, and have led to concrete improvements in certain instances. Private and public banks are equally engaged in a number of voluntary initiatives that aim to improve their social and environmental accountability (for example the Equator Principles). In the event of political conflict, however, any voluntary commitments are ultimately neutralised by their non-binding nature and can exert no leverage against strong lobbying interests or powerful political opposition. Rather more hopeful, in that regard, is the current approach towards legally binding regulation of country- and project-specific transparency commitments, as are currently being implemented in the USA by the Dodd-Frank Act and discussed in the EU in the context of the Transparency Directive.

In agriculture, too, the regulations for sustainable investment are voluntary. At present the World Bank, the OECD and the FAO are all developing criteria for sustainable and responsible investment in agriculture as a response to the sell-off of fertile lands in African countries. The criteria are aimed at participation, transparency and democratic processes. But unless they are clearly binding in character, all these regulations are of negligible value. Low levels of democracy and legal certainty in many of the affected countries afford little protection to traditional users, with the result that land rights and entitlements are overridden in favour of investors.

The challenge is enormous: in a world of finite resources, unbalanced purchasing power, ever-increasing weather extremes and unstable economic and financial markets, it is imperative to safeguard human rights worldwide. Democratic approaches to resource governance offer a useful lever if they take account of the power imbalances within society concerning access and use of resources; they then present an opportunity for comprehensive appraisal of the ecological and social impacts of technical, social and institutional innovations.

## **2. Resource governance and power**

Political power plays a major part in the shaping of resource politics and the priority given to distributive aspects. Disputes over access to or possession and control of resources are catalysts or even causes of political power struggles and social upheaval in numerous countries and regions. Faced with the growing social pressure generated by competition for resources, it is a matter of increasing urgency to find answers to the question of more equitable and sustainable use and distribution of nature's bounty.

In resource governance terms, the effects of power versus powerlessness can be described from different perspectives:

### ***The power to purchase and to own***

To date, the use of natural resources has been unbalanced in the extreme. Should the global population rise to more than nine billion by 2050 in line with UN estimates, adding around three billion new consumers to the global middle class, the pressure exerted on available resources will grow drastically. However, the greatest population growth is likely to occur in developing countries, and specifically in the strata of those societies which already have the least resources at their disposal.

For many inhabitants of poor but resource rich countries rising resource prices, increasing demand for natural resources and the discovery of new reserves hold promise of a better future. Governments and elites of these countries often claim that limiting the use of natural resources for environmental reasons undermine their right to development.

But rising resource prices, ecologically and socially hazardous methods of extraction and use, and ecological extremes that occur due to non-sustainable resource use – all these phenomena will disproportionately affect poorer sections of the population, now and in future. Unless this trend is decisively reversed, global social inequity will be exacerbated by the widening divide between the haves (and users) and the have-nots. Rising population numbers accompanied by diminishing resource availability make it all the more urgent to address the issue of distribution, and the question of how to safeguard the rights of the most vulnerable population groups.

The boundary between the haves and the have-nots has long ceased to be a purely regional divide between the global North and the global South, and is now increasingly identifiable within individual countries. The resurgent economies of China and India specifically are witnessing strong growth of the middle and upper classes, whilst at the same time large sections of the population still live below the poverty line.

Growth of the middle class is confined to the cities and is of little benefit to rural areas; on the contrary, the political power relations are blatantly clear, so that in cases of doubt, the needs of an urban middle-class electorate in many countries are pandered to, at the expense of a politically and economically marginalised rural population. In other cases where the

urban middle class has become estranged from the political elites they hold on to power through strongholds amongst the rural and urban poor by engaging in populist discourses. In both cases, the economically weaker rural regions are favoured locations for many of the extractive industries' large-scale projects or for the construction of dams.

Another important aspect is that in many rural societies, women frequently have poorer access to resources than men. Even if public laws permit women to own resources such as land, this may not be easy as it might not be in line with traditional social values. Additionally, the gender specific impacts in mining and extraction often disfavours women since they are A) often marginalized in the prior consultations with mining houses, B) have less possibilities to find a job within the mining company, C) subsistence farming as the basis of their livelihood is destroyed and C) women face a much higher risk of being forced into transactional sex with migrant mine labourers as an additional source of income.

### ***Corporate power***

The capital-intensive and high-tech structures surrounding the exploitation of many fossil resources make them prone to monopoly uses and consequent market failure, power-based allocation and corruption. The resulting lobbying strength of large corporations, including the financial sector, dominate political decision-making processes in the shaping of resource governance at national and international level. This has been well documented with reference to the "brown economy" and the fossil fuel lobby. A current example is the planned merger of the Glencore and Xtrata corporations to form a new resources giant in an already highly concentrated market. Now the new corporation controls the entire value chain, from the mines and fields to the marketplace, for such diverse commodities as wheat, coal and zinc.

The same is true for the agricultural sector. The dominant power of a few transnational corporations in agricultural markets has emerged as a considerable challenge. The top 10 companies control 80% of the global pesticide market and another ten companies control 50% of the global seed market. But in recent years the most drastic concentration took place in the retailing sector where for instance in Germany five large retailers control 90% of the market share. High levels of concentration in the markets for inputs like fertilizer and pesticides or for processing and retailing have an impact on agricultural production and the type and quality of food provided to the consumer.

Moreover, many of today's multinational corporations are capturing key market shares in the "green economy". The role played by physics and chemistry in utilising fossil energy sources for industrialisation over the past two centuries will become the province of biology in the 21st century. To reduce the dependency of industrial production on oil, as a prelude to substituting it entirely, it is essential to generate sufficient biomass to fuel post-fossil economic growth. The race to control the earth's biomass reserves is creating new power constellations and corporate alliances, competing globally to position themselves rapidly and strategically in bio-economic innovations. The major players of the old brown economy (e.g.

Exxon, BP, Chevron, Shell, and Total in the oil sector, Roche and Merck in pharmaceuticals, Unilever, Cargill, DuPont and Monsanto in the food sector, and Dow and BASF in the chemical industry) are now competing for patents, control of resources and market access, e.g. in biotechnology, seed supply or in the food industry – in some cases setting up whole new joint ventures and employing risky technologies, for example in the field of synthetic biology. Here – unless political countermeasures are put in place – an alarming power constellation is taking shape, which the present political agenda is utterly failing to address.

### ***The power of knowledge***

A look at agricultural research shows that less than two percent of global agricultural research funding is invested in research into organic farming methods, whilst research into high-yielding varieties and new technologies commands the bulk of total funding. Research into low-resource and capital-extensive production methods and extension services, and especially niche research focusing on the needs of small-scale farmers, are strikingly underfunded.

These inequalities take on more drastic proportions when private investment into research is taken into account. Research and innovation operate within existing power structures; large corporations invest in technologies which match their ambitions for profit and market power. The old patterns of the “greed economy” will not be dispelled by this version of a green economy.

### ***Trade and investment***

The neoliberal theory of trade – probably the theory that has had the strongest impact on policy discourse over the last few decades – favours the power structures of multinational corporations since the liberal global trading system reduces the political space of individual countries to shape national economic, agricultural, environmental and trade policy. Due to power imbalances, shortcomings of democratic processes and the rule of law, and the dominance of the industrial development model, neoliberal trade and investment policies exacerbate the non-sustainable use of resources and offer no incentives for lowering consumption or improving efficiency/recycling. The distribution aspect is simply omitted; if anything, more protection is afforded to investors than to the rights of the affected population.

Liberal trade structures entrench and reinforce the role of developing countries as suppliers of "cheap" raw materials without building capacity in the countries concerned for downstream processing and hence value creation. In a world in which sustainable models for resource use and fair distribution of resources were implemented, today's trade and investment policies would have to prioritise very different considerations.

### ***Geopolitical shifts in power***



The scramble for access and control of resources, usage rights and governance structures is taking place against the backdrop of a fundamental power shift on the political level, in which the major emerging economies are key players. Ground-rules and standards have been fundamentally altered by the growing significance of the resource-rich and (generally also) highly populous countries Brazil, Russia, India, China and South Africa, both in multilateral policy fora (G20, UNFCCC) and international institutions (World Bank, IMF) as well as in commodity markets. Decisions can no longer be made without consent from the new Southern powers that have also begun to coordinate their interests in fora like BASIC, BRICS or IBSA.

The changing geopolitical landscape is also visible in the growing investment activity of private and state-owned corporations from the emerging economies in the exploitation of resources – from land to oil and coal to mineral resources – located in the poorest developing countries. Brazilian, South African, Chinese and Indian banks are also increasingly important actors in the commodity markets.

In the context of resource governance, two significant points spring to mind here: a finite planet cannot support elitist production and consumption patterns in the North and in the South; it is no longer possible to negotiate lifestyles, solutions and answers to the crisis without involving the new powers.

### **3. Blind alleys out of resource scarcity**

#### ***Sustainable development and green economy***

What do we actually mean by the stock phrase "sustainable development" which was the main concept of the Earth Summit in Rio 1992? A growth model that is fossil-based to some degree? The dream of infinite economic growth in a finite world? Or do we mean more fairness – between different countries, people, generations and genders? Depending on how the term "sustainable development" is defined and understood, fundamentally different solutions are put forward. And it is no coincidence that twenty years after the first Earth Summit in Rio de Janeiro, with a mountain of global problems still towering overhead, we rightly concede that "business as usual" is not an option, yet not one of the many solutions under discussion and viewed as politically relevant breaks out of the standard paradigm of development as growth.

What happens if sustainable development is defined as a development pathway that guarantees universal human rights to all the world's people, that works towards global fairness and, at the same time, safeguards the planetary boundaries? Equitable participation then becomes the pivotal element of sustainable development. In that case, the purpose of economic endeavour would no longer be to multiply profits and power, but to help people and nature to prosper. The idea of growth as the driver of societal wealth must be fundamentally re-evaluated, not only because of the planetary boundaries but also because

the current definition of wealth, as represented by GDP, ignores many dimensions of societal prosperity.

But this is not how sustainable development is discussed today. While it was a disastrous error at the Rio Earth summit in 1992 not to question the concept of “development as growth” it was a dramatic error to repeat and even broaden the concept as part of the Rio plus 20 discussions on “Green Economy and Green Growth” in 2012.

The green economy is a concept espoused by the European Union (EU), the Organisation for Economic Co-operation and Development (OECD), the various organizations of the United Nations (UN), by think tanks, universities and sections of the business community itself. The starting point of all deliberations on the green economy is the impending threat of climate change and resource scarcity. Decarbonising the global economy – preferably within the two-degree warming corridor, with extensive investment in resource efficiency and renewable energies – is a declared objective of all protagonists of a green economy. None of them consider the “business-as-usual” scenario to be an option. All these concepts of “Green Economy” or “Green Growth” rely on the assumption that we can sustain economic growth at current levels. This discourse does not include changing consumption patterns and lifestyles as a kind of “disarmament program” for resource use. Instead, the solution being proposed is to increase productivity and efficiency through technological innovation, but also to improve the availability of resources. Questions like “Who should benefit from the green economy? How can we ensure that we keep the green economy within ecological limits?” remain unanswered or even worse unasked.

If the main concept is no longer development as growth but development as more equity and justice, a vision of sustainable resource use must in that context meet clear standards on at least three dimensions: 1) relevance to poverty and development, 2) intergenerational equity, 3) scrutiny of the social and ecological impacts of resource use from the viewpoint of human rights.

So far neither the state nor the market have implemented the necessary models to solve these problems, and many of the green economy and resource efficiency models that are currently under discussion exhibit serious shortcomings:

### ***Efficiency and substitution***

Resource efficiency is one of the key principles bandied about when discussing ways to reconfigure our economic system for sustainability. Optimising output per unit of resources deployed is undoubtedly crucial to any form of sustainable development.

But irrespective of the great efficiency gains achieved in many areas of production and daily life, the resource efficiency model has major shortcomings when it comes to a truly fundamental change of course in our resource use. In the best-case scenario, it only slows down the already excessive use of various resources without altering the existing structures of power and use.

Two trends from the past can be observed which cannot conceivably continue in a future world of resource equity:

- 1) **Many efficiency gains relate to specific individual resources at the cost of others.** A good example can again be found within the 'green revolution' when land and labour were replaced by water and fossil (finite) inputs, mainly nitrogen fertilisers and pesticides. This dramatically raised yield per area of land, but at the same time increased the dependency of agriculture on fossil energy sources – and, incidentally, that of farmers on the manufacturers of inputs (mostly large corporations).
- 2) **Many of the efficiency gains achieved did not relieve any ecological pressure overall because they were outweighed by higher direct or indirect consumption (the rebound effect).** For example, the use of fuel-efficient cars does not lead to lower emissions if they are driven further or fitted with larger engines, nor if the savings from the fuel bill are spent on other energy-consuming activities such as air travel. Some consumer savings come at the price of high social and ecological costs during the manufacturing process; for example, the aluminium used to produce lighter cars is produced on the basis of bauxite mining in the Amazon region.

Far from being spectres of the distant future, "peak everything" and "planetary boundaries" are already with us here and now. This means that solutions chosen in the past, such as replacing a scarce resource with one that is more abundant, is no longer an option. Many present-day technologies for the production of renewable energies are also based on finite mineral resources like rare earths. The first trade dispute has just arisen within the WTO over export restrictions on rare earths from China, since the USA and the EU object to an unduly restrictive export policy. The social and environmental consequences of substitution are frequently played down: national and international asymmetries of power and democratic shortcomings command equally scant attention.

### ***New technologies***

The resource efficiency debate ties in closely with the discourse on new technologies. Indeed technological innovations have delivered greater resource efficiency – in the past. And it is virtually impossible to predict what our future innovation potential will be. All this is true and noteworthy. However, there are various aspects of the debate which are often sidelined by technological fervour. Above all else, the actual or potential negative side-effects, particularly of large-scale technological solutions, often go unacknowledged.

The urgency and drama of the climate crisis tend to propel into the limelight those players who advocate instant, gratuitously easy and safe solutions. One of these is geo-engineering, i.e. the manipulation of our global climate system using costly and risky technologies that are currently being developed or, in some cases, already being laboratory tested or trialled on pilot projects. Examples of geo-engineering ideas include ocean fertilisation (to increase CO<sub>2</sub> absorption) or the positioning of gigantic mirrors in space (to divert the sun's rays from

the earth). There is absolutely no way of assessing the potential impacts of the use, or even the testing, of such technologies.

More familiar technologies such as nuclear power, large dams, carbon capture and storage (CCS) and genetically modified crops may contribute to reducing greenhouse gases or improving crop yields (although even that is uncertain in many cases), but their effects are just as highly risk laden, and their ecological and social impacts equally drastic. For example, in the field of genetic engineering, it is impossible for genetically modified and non-modified crops to coexist because natural pollination allows genetically modified material to cross over into all other plants. What long-term effects this may have upon humans and animals has barely been investigated.

Another element in the innovation debate that tends to be downplayed is the diversion of attention. Potential but not yet existent technologies distract attention from fundamental political debates on changing course, lowering consumption and transforming consumption patterns. For example, it is not viable for all of us simply to switch to ultra-efficient electrical vehicles but then to insist on owning at least one each. Instead we need a fundamental change of direction in the transport sector towards more public transport, as well as a debate about those aspects of our trade and consumption patterns which depend on long-distance transportation.

### ***Market mechanisms and conservation***

Various concepts of today's environmental governance or conservation strategies relay on the assumption that environmental destruction is mainly a problem of market failure. This means that neither the services provided by nature nor environmental destruction have a correct price. This consequently leads to the conclusion that *if* nature and environmental services had a correct (monetary) price that mirrored their importance to society market mechanisms would provide the best solution to protect nature. The "Stern Report" attempted to apply this logic with regard to the climate, and TEEB (The Economics of Ecosystems and Biodiversity) does the same for biodiversity; similar calculations have been carried out with reference to land (the cost of land degradation). And at the Rio+20 Conference the financial sector launched its 'Natural Capital Declaration'.

The idea of pricing is to turn nature into a product that can be integrated into our economic model, so that under optimal market conditions it can be optimally used – and, by implication, not overused. Power imbalances and democratic shortcomings are usually completely neglected in these processes. The application of market-economic instruments for the protection of natural resources must be carefully thought through. The interests of powerful actors – banks, hedge funds, major corporations and also governments – prevent appropriate application, in many cases. All those who have little political power, such as small-scale agricultural producers and forest dwellers, are often further marginalised by these processes and derive little benefit, if any, from such approaches.

#### **4. Resource Politics as part of the solution**

##### ***What is the meaning of resource politics or a resource policy perspective?***

Equitable access to resources, participation in the profits of resource use and the prevention of any resultant environmental degradation bear a strong relevance to poverty and speak to the dimension of global equity, not only in today's world but also towards future generations. It is essential to define clear caps and limits on consumption within the framework of planetary boundaries, and to specify distribution factors which guarantee that human rights are safeguarded.

Resource politics in this context refers to public intervention in the use or provision of resources. By resources we mean those assets which occur in nature. Resource policy is always necessary if the equilibria that become established in its absence produce socially undesirable outcomes. Socially undesirable outcomes may include inefficient use, as found in cases of externalisation effects or imperfect markets, or an inter-temporal allocation which pays inadequate regard to the interests of future generations, or unduly high or low resource prices which result in socially undesirable distribution-policy implications. It must of course be taken into account that not all governments or administrations have the right institutional capacity to provide good interventions.

Resource politics combine the economic, ecological and social aspects of resource use. They look at questions of distribution, power structures, and deficits and potentials of democracy and participation. A resource policy perspective allows for the linkage of different problems and usage structures and hence an awareness of the whole resources nexus, which lends greater coherence to political solutions.

If coherent answers are to be given to present-day crisis phenomena such as hunger, poverty, rising inequality, climate change or biodiversity loss, it is necessary to take a comprehensive view of the potentials and the social and ecological limits of the use of different fossil and renewable resources. The resource governance approach makes it possible to step outside of the political "silo mentality" and avoid straying down social and ecological blind alleys (such as blending quotas for fuels from Biomass).

As a concomitant, the necessity of institutional restructuring must be recognised. The vision of sustainable development in this context acknowledges that ecological stability (or even improvement of the resource base) is indivisibly linked with social justice. A sustainable resource policy provides a framework for action which accepts the boundaries of the planet as well as the normative consensus on universal human rights. Resource equity refers to distributive justice both between countries and within societies, countries and communities as well as between generations and genders.

##### ***Baselines of alternative resource politics***

Sustainable and equitable resource politics must be imagined as a bundle of diverse policy measures pulled together from different social, economic, trade and environmental policy

fields. Obligatory and legally enforceable frameworks underpinned by human rights and planetary boundaries are the prerequisite for the implementation and effectiveness of equitable and sustainable resource policy.

In order to enable coherent decision-making, planning and action, it is also essential to restructure our political and social institutions. In a great many respects, ministries reflect precisely the kind of silo mentality that we have to overturn. However, university structures can also be hamstrung by disciplinary divides. We attempt to solve the climate crisis with climate policy, to achieve energy security through energy policy and to combat hunger in the world by means of agricultural policy measures. If we go no further than that, we are doomed to fail and to constantly undermine our own efforts.

Politics always has been and always will be a process of negotiation in which different interests must be weighed up. But we urgently need new and intelligent institutions which can rise to the challenges of multiple crises in a complex and multi-polar world. Our pursuit of innovation must therefore concentrate most especially on the quest for innovative institutions and regulatory approaches, building up from the local and national / regional to the global level.

We need a new process of policy formulation that not only works in an interdisciplinary and comprehensive way, but also needs to become much more transparent, inclusive and democratic, for example through truly meaningful engagement with civil society and local communities.

### ***Commons-based resource governance***

A way out of the mental trap that locks us into the paradigm of resource scarcity, on the one hand, and market versus state on the other, is the idea of the commons. However, there are two fundamentally different conceptions of what commons actually are: one relates to the social, natural and cultural resources themselves (i.e. water, forests, culture, genetic codes and free software); the other refers to the relationship between these resources and their users. It revolves around the rules imposed by the community of resource-users themselves to determine how access, control and use of the resource will be governed.

What both have in common, however, is that they respond to market and/or state-dictated scarcity with the model of plenty: the community takes care of the commons that belong to it collectively, protects them from exhaustive use in the interests of all (e.g. water, forest) and even enlarges them (free software, knowledge etc.). In all cases, the applicable rules are dependent on the attendant cultural, historical, social, economic and ecological conditions of these communities. So no two sets of commons are exactly identical.

Commons are anything but the no-man's-land in the "Tragedy of the Commons" narrative, which is all too gleefully cited to justify the enclosure and privatisation of resources. Public commons function above and beyond the mantra of growth, the dictates of production and

the pressure to extract value, and are dedicated to the sole purpose of fulfilling human needs.

With this in mind, the protection, maintenance and support of commons-based resource management should be part of any resource governance strategy for the 21st century.

***Next steps – the search for solutions...***

Resource Politics in the 21st century imply quite a fundamental reorientation in many areas. The search for solutions to the tremendous challenges ahead cannot be done in a 'silo mentality' and not by one brain or one nation alone. The Heinrich Böll Foundation has therefore initiated a global dialogue project on Resource Equity in a Finite World that aims to engage young academics, activists and policy makers in a cooperative and creative debate. This essay should be seen as a starting point for the discussion that has to begin NOW.

More information on the project can be found here: [www.boell.de/resource\\_equity](http://www.boell.de/resource_equity)