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‘Healthy Planet, Healthy People’ – Implications of the 6th UNEP Global Environmental Outlook (GEO-6) for German environmental and sustainability policy

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A few days ago the United Nations Environment Assembly (UNEA-4) officially adopted the sixth edition of the UNEP Global Environmental Outlook (GEO-6). The report, entitled ‘Healthy Planet, Healthy People’, stresses the fundamental contribution of nature to human health and well-being. Under the auspices of the United Nations Environment Programme (UNEP), the GEO-6 was prepared by some 150 authors and subjected to an international scientific peer review. It provides a comprehensive overview of the available knowledge on the state of the global environment and the causes of environmental change.

What is the Global Environmental Outlook (GEO)?

Since 1997, the United Nations Environment Programme (UNEP) has published reports every few years on the global state of the environment (GEOs). They are the result of review processes involving experts and government representatives from around the world. Similar to the assessments of the Intergovernmental Panel on Climate Change (IPCC) for climate, the GEO series compiles the current knowledge on the state of the environment. The GEO-6 is characterised by an integrative examination of the various environmental media (air, land and soil, oceans, etc.) as well as the social, economic and ecological trends that influence the state of the environment.

The GEO-6 has several new features compared to the previous reports:

- For the first time, the GEO not only evaluates the state of the environment, but also the effectiveness of environmental policy. The highly policy- and solution-oriented report uses a model-based scenario analysis to also project possible future conditions.
- The GEO-6 focuses more than its predecessors on the interactions between humans and the environment. In particular, it looks into the relationship between the environment and human health and the importance of environmental policy for achieving the UN Sustainable Development Goals (SDGs). The report identifies the need for far-reaching transformations and provides potential starting points.
- For the first time, the GEO-6 also builds on six regional assessments to present detailed regional analyses and policy recommendations.

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Which findings of the GEO-6 report are significant for Germany, and what are the implications for German environmental and sustainability policy? In the following, we summarise the key findings and outline possible options for action. They are based on a more detailed background paper on the GEO-6 by the authors³.

The global record of environmental policy is sobering in many areas. All countries – Germany included – must counteract this and accept their shared global responsibility.

The GEO-6 describes the accelerating destruction of ecosystems and the signs of the mass extinction of species caused by climate change. Significant changes in climate and sea levels can no longer be prevented and will have serious consequences for humans and the environment. Air pollution causes an estimated 6-7 million premature deaths annually and US\$5 trillion in welfare losses. The quality of freshwater is also declining due to contamination from plastics, antibiotics, pesticides, heavy metals, chemicals and the like. Freshwater and terrestrial ecosystems are rapidly disappearing worldwide. Between 1996 and 2011, around 40% of all wetlands were lost, while the availability of clean drinking water per capita is also declining. Oceans are being over-exploited, over-fished and polluted, not least by the 8 million tons of plastic waste that end up in the water each year. Species extinction is accelerating dramatically, particularly in coral reefs, threatening not only habitats, but also the fishing sector. Although global deforestation has slowed, it is far from stopped. 29% of all land areas worldwide are considered degraded. Almost three-quarters agricultural land is used for livestock farming. The increasing demand for meat products, the rapidly growing world trade in soya and palm oil and population growth are contributing to ecologically problematic land use changes and to the growing use of chemicals. Chemical pollution has become a global threat to ecosystems and human health. The loss of environmental quality is inflicting enormous costs and is a cause of migration.

In Germany, the state of the environment has improved in some areas in recent years or decades – air and many bodies of water have become cleaner and the economy more energy- and resource-efficient. However in other areas, in particular biological diversity, in sealed surfaces and soil degradation, and in the emission of pollutants such as antibiotics, nitrogen, etc., deterioration continues to persist. Germany remains far from a sustainable economy despite reduced emissions in the area of climate change, as efficiency gains are offset by growth effects. As a result, the necessary absolute reductions in energy and resource consumption are not being achieved.

Two **conclusions** can thus be drawn:

- a) It is necessary to intensify efforts in Germany to more effectively combat environmental degradation and to reduce resource use. The government has already set ambitious goals in many areas. However, more effective policies, appropriate administrative capacities and new ideas for effective implementation are needed to achieve these goals. This is particularly true in the areas of air pollution control (e.g. diesel exhaust), climate protection (e.g. achieving climate targets, implementing the Energy Saving Ordinance, EnEV) and protecting biodiversity (e.g. designating protected areas, monitoring good agricultural practices).
- b) Germany must also accept its shared global responsibility. The integration of international trade has contributed to the export of local environmental consumption to the global South, while other pollution is imported. While Germany exports environmental protection

³ Jacob, Klaus & Wolff, Franziska (2019): Implications of the 6th Global Environmental Outlook (GEO-6) for Germany. Background paper. UBA-Text 2019. References to relevant literature used in for this paper can be found in the background paper.

technologies that reduce pollution and consumption worldwide, it also exports a large number of goods that increase environmental risks and consumption abroad – from genetically modified plants and motor vehicles to nuclear power plants. Moreover, many goods (including medicines) consumed in Germany are manufactured in other regions of the world, thus exporting the corresponding resource consumption, pollution or resistance formation. More than half of the water that flows directly or indirectly into imported products comes from abroad and can lead to water shortages and conflicts of use in those regions. Two thirds of the land used for producing goods consumed in Germany is located abroad, around half of which is used for the manufacturing of animal products. At home, German export goods such as meat, electricity from lignite or industrial salts are also produced in an environmentally intensive way. The loss of environmental quality highlighted by the GEO-6 can only be slowed down if ecological considerations are generally accepted globally for products, production methods and ultimately lifestyles.

Environmental policy must become more effective in all countries, Germany included.

The GEO-6 shows that many different approaches and instruments are being tested and developed in the field of environmental policy, including in the global South. For example, the auctioning of feed-in tariffs was already practised in India and South Africa before it was introduced in Germany, and has now become a globally widespread instrument. Another example is the support programme rewarding farmers for the provision of ecosystem services in Costa Rica in the early 1990s which have helped to protect and even replenish rainforests.

Worldwide, environmental policy instruments dominate that are non-binding. Moreover, regulatory and economic instruments are comparatively rare. Even where limit values exist, many countries lack the administrative capacity to ensure implementation. Policy design is also often weak: opportunities to tighten standards, to evaluate and systematically update policies and to involve stakeholders transparently are not fully utilised. However, the process design is at least as important as the choice of instruments when it comes to the effectiveness of environmental policy: with the help of knowledge-based approaches and comprehensive participation, long-term public interests can prevail over short-term special interests. Mechanisms for continuously increasing ambitions (of targets, limits, levies, etc.) can help to ensure acceptance in the short term and achieve the required effectiveness in the medium and long term if they are linked to a continuous improvement in the level of protection.

The search for new approaches to improving environmental policy in other countries is a central driving force behind the global diffusion of environmental policy. Examples of good environmental policy practices are copied, such as energy consumption labels, feed-in tariffs, climate protection laws or the regulation of plastic waste. However, it should be noted that policy diffusion tends to be more effective with non-binding instruments than with those regulating economic activity and consumption.

Our conclusions:

Germany can support both the improvement of effectiveness and the global diffusion (policy transfer) of ambitious environmental policy. Starting points include:

a) Once again becoming a forerunner in European and international environmental policy: Effective environmental policy that is economically and socially justifiable or even advantageous was exemplary for many countries in the past. In many areas, however, Germany has since abandoned this role, e.g. by not going beyond the minimum requirements of European law in its government coalition agreement on climate and environmental protection (the so-called 1:1 implementation of EU directives), in the regulation of exhaust standards for passenger vehicles, etc.

b) Systematic support of the global diffusion of ambitious environmental policy: as with the Paris Agreement, the international community could commit itself to the continuous advancement of environmental policy as a whole and submit progress reports for this purpose or, as has been tested by the OECD/UNECE, undergo peer reviews. Germany could also set a good example here by developing and testing a suitable methodology.

c) Support for environmental policy diffusion within the framework of bilateral cooperation (e.g. in the BMU's Advisory Assistance Programme for the countries of Central and Eastern Europe, the Caucasus and Central Asia and other countries bordering the EU), development cooperation and international forums could not only be further strengthened, but also supplemented by a systematic search for environmental policy innovations developed in other countries that could be transferred to Germany.

For greater effectiveness, environmental policy must be integrated into other sectors.

The GEO-6 identifies the resistance of actors in other policy areas such as agriculture, energy, transport or industrial policy as a major problem for environmental policy effectiveness. These actors see themselves above all as trustees of their respective clientele and seek to avoid short-term costs. Worldwide, environmental policy is usually in a weaker institutional position than those ministries with economic interests. There are however situations in which environmental policy is associated with direct advantages for other ministries and sectors. Then progress can also be made. This includes not only economic advantages, such as for environmental innovations and their associated growth and employment potential, but also social aspects. Particularly in countries of the Global South, environmental policy is increasingly linked to poverty reduction. In India, for example, energy-efficient lighting is subsidised for poor and rural populations. In Kenya, households are supported in procuring low-emission cooking appliances. South Africa employs low-skilled workers to remove invasive plants that otherwise consume excessive amounts of water. It has also introduced a progressive water tariff providing for basic needs free of charge, with rising prices for additional consumption. Chile's fisheries policy combines the protection of stocks with the granting of fishing rights to small, traditional fishermen. The list goes on. Even if much cannot be transferred directly to the German context, environmental policy instruments can, depending on their design, make a contribution to reducing poverty and inequality.

However, the analysis of the GEO-6 also shows that whenever no immediate social or economic benefits are discernible, or when costs are incurred by assertive groups while the benefits are widely distributed, environmental policy is often so weakened that the causes of environmental damage are no longer effectively addressed. In such cases, environmental policy should also be strengthened institutionally by other ministries.

In Germany the integration of environmental concerns into other policy areas is also inadequate, such that the following **conclusions** can be drawn:

a) The rationalisation of environmental policy should not only focus on the costs for individual actors, as is the case, for example, with the assessment of compliance costs monitored by the Regulatory Control Council. Rather, these costs should be compared with the macroeconomic benefits. The methods and knowledge available for this purpose are not yet used in regulatory impact assessments.

b) In addition, environmental policy should, similar to the Ministry of Family Affairs (since 1987), be granted a right of initiative in other ministries. This could put the Ministry of the Environment in a position to compel other ministries to address environmental issues in their respective areas. Areas for which the Ministry of the Environment is not responsible, but in which environmental concerns must be urgently addressed are food and agriculture, mobility,

construction and housing. Article 20a of the German constitution could be reconsidered and strengthened with regard to its binding character, so that it becomes an effective basis for monitoring standards or even for the protection of fundamental rights. A veto right comparable to the Ministries of Finance, Justice and the Interior could also help to emphasise the importance of environmental concerns. The ministries could be obliged to develop their own environmental strategies, the effectiveness of which would then be audited (in Canada this is the task of the Court of Auditors). As in Norway, their budgets could also be assessed for environmental effects before approval.

c) Environmental policy should become the driving force in actively integrating policy areas such as agriculture, energy, transport or industry to develop common solutions. For example, climate protection as well as the problem of excessive nitrogen inputs can hardly be tackled in any other way than through transformations in the relevant polluting sectors: agriculture, transport, the energy sector and private consumption. Solutions do not lie solely in the hands of the Ministry of the Environment, but must be sought across all ministries.

Environmental policy has an important social dimension. Strengthening this dimension fosters justice and thus the acceptance of environmental policy.

The GEO-6 states that environmental pollution is still one of the main global causes of macroeconomic losses, but also of human health impairment and inequality. This becomes clear in the case of air pollution: older, very young, sick and poor people in particular suffer from the health effects of air pollution. It is estimated that 7 million people subsequently die prematurely each year. Furthermore, access to natural resources can be vital, especially in poorer countries. Worldwide, over 70% of the poor depend directly on natural resources (fish stocks, forests, agriculture, etc.) and other ecosystem services (such as flood protection, pollination, air filtration, etc.) – the destruction of these resources exacerbates the precarious situation of impoverished populations in particular. According to the GEO-6, unequal access to land or uncertain land rights are a central obstacle to achieving the UN Sustainable Development Goals (SDGs).

Considerable health consequences from air pollution can also be observed in Germany, as illustrated by the debate over nitrogen oxide emissions or fine particles from diesel vehicles. The greatest health risk is currently posed by fine particles. Water quality is also essential for human health and well-being, and climate change is also having an increasing impact in Germany. Many fear that the excessively hot summers of 2003, 2015 and 2018 and their consequences particularly for vulnerable groups will not remain isolated events. The additional costs incurred over the next 50 years as a result of the increase in heat-related illnesses and productivity losses are estimated at around €61 billion. These three issues exemplify the significant social (as well as economic) benefits of environmental and climate protection.

In addition to its benefits for society *as a whole*, environmental policy can also improve conditions for certain currently disadvantaged groups. In Germany poorer people are also more exposed to environmental pollution or risks. They tend to be more affected by noise, air, water and soil pollution than people with higher incomes and at the same time have less access to local recreational areas. Such an unequal distribution of environmental benefits and burdens can result in high social and health costs. These particularly affect households with comparatively low environmental and resource consumption – the energy- and mobility-related ecological footprints of low-income households are significantly lower than those of more wealthy households.

The following **conclusions** can be drawn for German environmental and sustainability policy:

a) The case for environmental policy can increasingly incorporate the economic and health effects as well as the unequal effects of neglected environmental policy and environmental changes. Environmental policy that lessens the relative burden or enables low-income groups in particular to benefit from environmental policy measures is more likely to be widely accepted than policies seen to be benefitting a small elite with higher incomes.

b) Measures illustrating the connection between environmental policy, human health and well-being in Germany range from bans on harmful substances in products (toys, cosmetics, etc.), stricter pollution limits for coal-fired power plants and the harm-based taxation of pesticides to the phase out of tax subsidies for company cars or diesel fuel.

c) Environmental policy is also likely to reduce social disadvantages. If the hotspots of urban pollution are tackled, whole cities benefit – often particularly disadvantaged groups. Social compensation can for example take the form of improved (and permanently financed) urban green areas, especially in socially disadvantaged neighbourhoods. It can also be promoted through inclusive concepts such as an “edible city”⁴, the creation of green infrastructure, inclusive adaptation to climate change, etc. Environmentally harmful subsidies and regulations, which also primarily benefit people with higher incomes – such as the company car privilege – must be phased out. When designing numerous environmental policy measures, it is important not only to ensure that low-income households are relatively less burdened, but also that they can even positively benefit. For example, the promotion of energy-efficient household appliances or building refurbishment could be designed in such a way that low-income earners and tenants benefit from efficiency gains. Thus far the necessary investments have been lacking here, or conflicts of interest exist between tenants and landlords in the case of residential buildings. The proceeds from environmental taxes and the reduction of environmentally harmful tax advantages could be used in such a way that they benefit in particular low income residents. A new dynamic could thus arise for environmental policy: the contribution of environmental policy to social goals could allow for new coalitions and a more effective environmental policy to emerge.

d) Conversely, the environmental impact of social policy measures should also be assessed. For example, it should be asked whether the purpose of “Baukindergeld”, a subsidy to promote home ownership for families with less financial means, could not be achieved more land-sparingly with alternative measures.

Shaping transformative change

A central finding of the GEO-6 is that existing global environmental policy efforts will not be sufficient to effectively combat the observed environmental changes. More than marginal non-binding commitments will be necessary to achieve the UN SDGs in light of predicted trends such as global population growth and consumption levels. Considerable potential for improvement in technical, political, social and economic development has yet to be exploited. However, the GEO-6 report shows that there are systemic causes of environmental change that cannot be effectively addressed within the existing framework: resource use and environmental impacts must be more strongly decoupled from economic growth. In addition to significant increases in resource efficiency in land use, water and energy, consumption must be reduced in absolute terms and resource-intensive lifestyles and current growth policies questioned. The GEO-6 states that most countries’ growth policies will be more costly than ambitious environmental policies – they create stranded assets and irreversible impacts. Furthermore, it is often more expensive to repair damage than to prevent it.

⁴ See for example the „Edible City Andernach“, available at https://www.andernach.de/de/bilder/essbare_stadt_flyerneu.pdf.

Transformative change in consumption and production patterns and the associated socio-cultural contexts is needed. Transformations fundamentally change the way in which social needs (for food, mobility, communication, etc.) are met in order to radically reduce the associated environmental impacts. This requires changes not only in products, technologies and markets, but also in infrastructures, practices and lifestyles, ideals and values, etc.

Although it is an enormous challenge to influence comprehensive change processes towards sustainability, the GEO-6 identifies some building blocks that can be used to shape transformations. One such building block is the development of common visions for sustainable social development and technical innovation. The creation of spaces for experimentation is necessary in order to test social and political innovations. Furthermore, transformative policy requires the promotion of bottom-up niches as well as the termination and phase out of unsustainable structures and practices. Finally, the GEO-6 refers to the role of participation (e.g. in the development of long-term visions and strategies, but also in the context of real-world laboratories), the integration of new actors who can advance transformation (pioneers, change agents) and engagement with the potential losers of change.

What are the **implications** for Germany?

a) Learning from the energy transition: A transition in mobility, food and agriculture, and consumption and resources can and should be (further) advanced, similar to the targeted transformation in the German electricity sector towards greater sustainability in recent years.

b) In addition to regulatory and planning law or economic incentives, the instruments of transformative (environmental) policy named in the GEO-6 can be used here. For example, given the very different perspectives in the fields of food and agriculture, a participatory social process could help to develop a common vision of the desired futures and define concrete measures. In the field of mobility, experimental clauses would promote the testing of fresh ideas for new transport policy on a temporary and local basis. Such real-world laboratories could prove the feasibility and acceptability of alternatives to motorised individual transport. On the basis of increasing acceptance, a phase out of the internal combustion engine could then possibly be prepared in the medium term – accompanied by social and industrial policies. Currently ongoing change processes (such as digitisation, urbanisation, etc.) can also be observed and evaluated for use in shaping sustainability transformations. A support programme for social innovation could support the development and marketing of sharing services, sufficient business models, etc.: a “10,000 Spaces Programme” could, for example, promote accessible public spaces for resource- and climate-friendly experimentation. New alliances of actors from health insurance schemes, insurance companies, religious communities, financial markets, etc. could mobilise deadlocked discourses.

Conclusion

The GEO-6 underlines the need to strengthen environmental policies to effectively halt climate change, biodiversity loss, land degradation, marine, air and water pollution, etc. Self-imposed goals are not being achieved by national governments. Rather, the implementation of effective action programmes is needed. Germany is no exception here, despite improvements in many areas and a discernible decoupling of economic activities and emissions. Stagnation in emissions and the consumption of natural resources is not sufficient, but rather will lead to a further deterioration in environmental quality with corresponding economic and social consequences, in particular health effects. Environmental policy can be strengthened by:

- Utilising policy instruments that effectively intervene in the economic process;

- ▶ Shaping environmental policy design such that environmental concerns are also effectively enforced in other ministries and the ambition level is continuously increased;
- ▶ More strongly supporting the global diffusion of effective environmental policy.

Strengthening environmental policy can lead to considerable improvements in efficiency and eliminate implementation deficits. An environmental policy agenda that supports or prescribes and updates technologies in order to reduce emissions and conserve natural resources is far from completed, even in Germany.

The GEO-6 also shows that existing environmental policies should be complemented by more far-reaching approaches aimed at systemic change. Transitions in the energy, raw material, transport and agricultural sectors are not yet complete, and in some cases have yet to begin. The UN sustainability goals cannot be achieved through technical changes alone, but rather require cooperation between various policy areas. An integrated sustainability policy is necessary which considers the central social challenges of the sustainability goals. The future of sustainability in the fields of jobs, social security, housing, transport, nutrition, etc. cannot be assessed from a solely sectoral perspective. For environmental policy, as for any other policy area, this means engaging in problem views and approaches beyond one's own competences.

An assessment similar to that of the GEO could be conducted with a focus on Germany: a comprehensive, systematic and participatory development or assessment of knowledge and scenarios for sustainable development could provide a starting point for more effective, integrated and transformative sustainability policy.