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# Expectations for research from the standpoint of a practical sustainability policy

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*'Winning the future – the contribution of socio-ecological research'*

## 1. Sustainability requires pioneer thinking

Sustainability policy constantly creates new questions and challenges. That is why the German Council for Sustainable Development (RNE) has been addressing the significance of the research sector for the realisation of sustainability from the very beginning. Sustainability Requires Pioneer Thinking – that was the slogan presented by the chairman of the Council at the kick-off meeting in September last year.
The German Council for Sustainable Development (RNE) has commenced its work in April 2001. Its task is to advise the German Government on sustainability policy and communication to the public. The Council has proposed concepts and targets as well as beacon projects. The political power of the Council is rooted in its wide-ranging composition and is determined by the wishes of the Council members to provide the political impetus despite contextual differences.

Today, research for sustainability rests on a solid basis. I would like to remind you of the study 'Sustainable Germany', the research work of the Federal Environmental Agency (UBA) and the studies carried out within the framework of the sustainability project of the Helmholtz-Society. Furthermore, I'd like to call attention to the programmes of the Federal Ministry of Research, and the variety of additional studies of the federal states and other research institutions.

As chairperson of the BUND it is necessary to concentrate on the Study 'Sustainable Germany' – not only because it was the first comprehensive and concrete study focussing on sustainability requirements in Germany, nor because it was the study

that received the highest public attention until now, but because I consider the study a successful sustainability experiment with regard to research policy.

The starting point was the NGO's counter-conference on the occasion of the G7 Summit in Munich in 1992, when Manus van Brakel – from the Dutch partner organisation of our international network 'Friends of the Earth' - reported the study 'Sustainable Netherlands'. The attempt to translate sustainability into concrete policy in the Netherlands was met with great public response. We at BUND took up this international idea, translated the Dutch study into German and were thereby able to test its inspirational results for our discussions. After that, we came to the conclusion that we also needed a similar study for the Federal Republic of Germany: a study that shows what the Rio conclusions really meant for the sustainability policy of an industrialised country such as Germany. In order to meet the Rio goals for environment and development, we started looking for a developmental partner, and found Misereor. We decided to make the Wuppertal Institute our scientific contractor - with its own financial participation - because of their readiness and ability to work across various sectors, their readiness for trans-disciplinary cooperation with practical partners, and their willingness to accept a somehow unusual research procedure: a scientific advisory board was set up which also included contracting party members. Ongoing consultations with us as project partners were part of the founding process. The second half saw a scientific discussion with the broader public that led to clear changes within the project. In addition to scientific processes, BUND and Misereor elaborated a comprehensive communication concept.

Looking back, I can see certain points that have, in the meantime, become common requirements for sustainability research projects: an international focus, interdisciplinary and trans-disciplinary elements, an exploratory phase, the design as learning project and the subsequent and integrated communication phase.

When launching the project, we did not, however, focus on research-political innovation, but on political targets. The terms concerning research design were introduced to me during my time as a member of the strategy advisory board of the research programme 'Socio-Ecological Research'. This was to give you an idea about the background from which I will formulate my arguments concerning the

relationship between science and sustainability policy, and the concrete expectations towards the scientific community. These expectations are not self-fulfilling prophecies, and their implementation does not occur automatically. They require emphasis and patience.

1. Expectation: The scientific input into sustainability policy will change science itself. The concept of sustainability was not created in the scientific ivory tower, but in the context of practical and political necessity on two occasions.

In the Middle Ages, excessive deforestation created an emergency situation that created a shortage (and decrease in quality) of the widely-needed resource of wood. This led to systematic reforestation efforts and the use of forests on a permanent basis. It was only in the 18th century that this phenomenon was described by the term 'sustainable use'.

In 1987, the concept of 'sustainable use' was popularised by the Brundtland Report of the World Commission on Environment and Development, and this marked the beginning of its political career. The scientific elaboration and management regulation of the concept occurred afterwards.

Science did not create, nor dominate the concept of sustainability, but scientists were quick to take it up. Speaking critically, we can say that in many cases it was only possible to 'attach' sustainability research to existing scientific research projects (as technical developments in most cases) as an additional element that did not cause any damage. Science perceived itself as both a service and a tool for observation. I expect, however, that there will also be repercussions of sustainability policy on the organisation and structure of science in the future. The unilateral relationship of science, as 'service provider' to society has developed into a fundamentally interrelated system, where each influences the other.

We can expect for sustainability research to shift and re-evaluate some old-fashioned scientific benchmarks. I would like to clarify this with the following points:

Regarding the normative content of goals:

You can often hear the following statements from scientists, and, to a certain extent from politicians: “Normatively set targets are the enemy of science”. Recommendations concerning targets – such as sustainability – are said to be ideological and unscientific in the end.

I was often confronted with this accusation when presenting the study ‘Sustainable Germany’ that is based on the concept of environmental space, and the explicit foundation of an equal distribution of environmental space among all human beings. This ethical postulate was called ideological: the current unequal distribution which describes 20% of the world population using 80% of the world’s natural resources, was considered an objective and scientifically ‘clean’ fact, not subject to question. In situations where it was impossible to adhere to this argument, the distribution issue was put on a normative level and was then called ‘justice regarding the protection of vested rights’.

The concretisation of objectives:
Sustainability policy requires concrete, quantifiable objectives. The definition of objectives for sustainability researchers, however, is often unclear and unambiguous, not precise and insufficiently disputed. Apart from concrete objectives, such as the invention of a zero-emissions-car, there are objectives involved that are difficult to describe, such as making public transportation more attractive.

The exciting part about sustainability is the search and optimisation process. From that perspective, sustainability requires a new, practical approach to research. Obviously, the new challenge is to specifically extend the number of possible answers to a question. This contradicts traditional research logic that normally narrows down empirical research in the laboratory or at the writing desk at the earliest possible stage. Reducing, fractioning, fragmenting and making it operational make the project easier for researchers and their contracting parties. However, this practise does less justice to the reality of our multi-layered society. This economy-focused thinking leads to the management of modern scientific knowledge, and it often cuts the research process to unconscionable levels. Therefore, I consider the focus on the exploratory phase of ‘socio-ecological research’ a very positive trend.

One expectation of sustainability policy towards the organisation of science is that this systematically extends the character and number of possible answers. This may be achieved, for example, by enlarging the circle of scientists involved, and by facilitating co-operative research.

Hence, sustainability is not a separate field of research. Sustainability is not a field that can be attached to other existing research fields. Sustainability is rather a way of thinking and a way of positive approaches within research areas. In spite of positive approaches, we are still far from meeting these expectations, within the academia even less than outside, especially in light of alternative research institutes (if they are still called that). That is why it is good policy to promote sustainability research in the earliest phases of research alongside traditional research areas. Learning processes, examples of best practice and convincing solutions should then bring these parallel tracks together in the future.

2. Expectation: Sustainability policy provides science with new research themes and scientists with new roles: from observer to co-designer

In the course of discussing sustainability issues, we often and easily use the formula that we want economic and social development within the constraints that arise from the environment's capacity to absorb existing conditions. Another question is: is science able to define these constraints exactly and sufficiently, to provide the basis for some hard and painful restrictions that people or individual groups will have to accept when using nature and the environment? Or do we have to get used to corridors of uncertainty: is it a distinguishing feature of sustainability policy to have to accept this uncertainty as a precautionary measure, instead of neglecting or denying it with a certain degree of progressive optimism? Have we really penetrated the driving force of the ecological crisis or of non-sustainable scientific development? It was not a scientific forecast that led to a change in agricultural policies, but a mad cow. The helplessness and absence of new ideas within agricultural science regarding the impact of current livestock breeding methods, such as feeding animal meat to farm animals, give rise to questions concerning the relevance or underlying interests of research.

Is the organisation of science able to make its limited ability to express itself a subject of discussion? How does it cope with the limits of knowledge and the limits of what is technically / biologically / ethically feasible? Will this limit be experienced as a positive ethical category, on the basis of which it is possible to derive consequences or as pure inspiration to overcome limitations?

At best, science takes offence from politics and political ethical attitudes and norms, as a first impression, seem to flee from science. One example is the problem of land use and urban sprawl. In Germany, there are about 130 hectares of land that are sealed every day, and aerial photographs clearly show the increasing carving up of landscapes by highways and housing developments. The German Statistical Federal Office calculated that, if the present rate of development continues, the Federal Republic of Germany will be completely sealed in about 80 years. Problem indicators are clear, but where are the limits? Wouldn't 20% of land be enough for the protection of biotopes? Couldn't we import our food from abroad and spend our holidays in ecologically untouched countries in the South, while continuing to build houses, shopping centres and streets in our country? Does this perhaps reflect individual and social preferences that science must accept as given facts? Is science allowed to interfere? Or, conversely, can science bear the responsibility for *not* interfering, with respect to normative issues such as reducing the consumption of meat, increasing mobility and use of new land due to a constant increase in housing demands? Are questions of attitude and the image of scientific treatment different from the accessible description? Or is this a matter of privacy or politics, where science reverts to the standpoint: dear people, you will first have to change your values, and then we will provide you with practical applications?

I am of the opinion that science must not keep out of this, but that it has a wide range of tasks to fulfil in the context of practical sustainability policy:

- Science has to show the negative impact of current non-sustainable activities;
- it has to formulate future-oriented drafts for sustainable development: additionally, it has to support the development of future-oriented ideas

presented by society, and to develop adequate methods for their implementation, such as future workshops and planning cells;

- it has to develop tools and measures to change the course of development in the direction of sustainability;
- it has to analyse processes of social change, namely how the balance of power may be cracked for the benefit of existing structures. During the course of change, the losers are normally easy to identify and they are well organised; winners, however, are often invisible and thus not well-organised or effective as a lobby;
- it has to analyse the phlegmatic nature - if not stubbornness - of institutions and bureaucracies when it comes to change and present conditions for innovations and political change;
- it has to analyse how to alter the individual force of habit, in order to test and permanently adapt new patterns of behaviour.

Change management is not only relevant to business consultants: it is a systematic task for the entire society, if the realisation of sustainability is not to remain theoretical but become a clear guideline for action.
Expectation: Sustainability demands new benchmarks from all players, including scientists, regarding transparency and participation of those involved.

Research for sustainable development has to guarantee a sufficient degree of transparency. Transparency of the sustainable development process is necessary, because this is the only way to establish confidence in its success and to achieve a readiness on the part of the society to accept compromises.

How does sustainability research approach the contrast between scientists and practical experts, laypeople and specialists? Is the traditional image going to survive: does the scientist ‘do research’ on the practical expert, who remains a pure object and ‘access to the field’ for him?  Or, desirably, does the practical experience of laypeople influence the formulation of problems, and therefore the way to find solutions? One expectation of sustainability policy is that we restructure the judgment of accessible know-how, orientation know-how, scientific / technical sense and moral-

political reason. We need new powers of judgment in applying know-how, non-empirical knowledge and our lack of knowledge. We need a culture of precaution.

In this context, the traditional image of laypeople and experts needs to be changed as well: because in our highly sophisticated scientific practice each scientist is also a layperson with respect to issues that are close to his or her own area of specialisation. Thus, each scientist is a layperson regarding most of the issues, and each layperson is somehow also an expert. Therefore, experiences and experts of everyday life and of political and economic practice need to be taken into account.

This is also a call for a new offensive, to strengthen critical scientific journalism. Scientific journalism is effective when it communicates what has been well-developed by science in a positive way. Here, science and its associated organisations have not yet done enough.

I opt for a scientific culture of interference: one that facilitates interference into society. What big companies have already been doing actively - despite great controversy and critical judgement - by seeking a dialogue with their stakeholders, should also be done by scientists.

4. Expectations towards internationalising science in Germany

German scientific contributions to sustainability are mostly unknown abroad. This applies to the high number of exemplary activities in the context of Local Agenda initiatives. They set local policy benchmarks which are indeed very interesting for other countries, but cannot be communicated due to language barriers. As with socio-ecological research, this cannot remain a German niche product.

We must not rest on our laurels. My expectation is that scientists will not only become familiar with foreign literature, but also make contributions to and participate in the discussions abroad. The Sustainability Council urged the German Government to increase the international component in its National Sustainability Strategy. Science has to become more international as well, regarding an exchange with other countries as well as discussion of internationally relevant issues. My impression is that the crucial question concerning the relationship between globalisation and

sustainability is still vague. The Sustainability Council advised the German Government to bring up the idea of forming a World Commission on Globalisation and Sustainability in Johannesburg.

I would now like to summarise my expectations from the viewpoint of practical sustainability policy:

- Sustainability policy provides science with new issues and scientists with new roles; they will transform from observers to co-designers.
- Sustainability requires new benchmarks also from scientists, with respect to transparency and participation of those involved.
- Sustainability requires an internationalisation of science.
- And last but not least: sustainability will change the research landscape.

There will be greater consolidation of research, both within universities and in the outside world, with transparent career paths. Research programmes will adopt policies of practical sustainability: there is enough time for exploratory phases to define research projects and communication processes more clearly, and enough flexibility to convert projects into learning systems. Interdisciplinary and trans-disciplinary elements are part of research standards, as well as the communication of research to the public and politicians. Women do not only make up about 50% of today's young researchers, but also as professors they bring up new views and issues. Here, it becomes clear that my expectations touch the sphere of vision – in a time where it will have become a matter of course that sustainability requires pioneer and cross-sector thinking.