



WBGU

GERMAN ADVISORY COUNCIL ON GLOBAL CHANGE

policy paper

1

The Johannesburg Opportunity: Key Elements of a Negotiation Strategy

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1 Introduction: setting priorities

Johannesburg in South Africa is a symbolically important venue for the World Summit on Sustainable Development (WSSD). No other continent has been worse affected by the impacts of global change and exhibits in such representative form the critical environmental and socioeconomic situation facing many developing countries. At the same time, the host nation epitomizes new hopes and beginnings following the radical changes it has undergone in recent years.

A new beginning is necessary at the international level, too, given the further deterioration in the state of the global environment since the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (WBGU, 2001b). New problems have arisen and the most critical remain unsolved. The WSSD to be held in September 2002 in Johannesburg provides the international community with yet another opportunity to set the future direction of international environment and development policy. In the run-up to this event, the WBGU would like to focus the attention of the Federal Government of Germany on some crucial issues where decisions in Johannesburg could help to eliminate critical shortcomings in current environment and development policy.

A great deal has been achieved in the field of global environmental policymaking since 1992, in particular the international conventions and treaties dealing with a range of global environmental problems such as climate change, loss of biodiversity, desertification, or the impacts of persistent organic pollutants. In the view of the Council, the Johannesburg summit should therefore refrain from detailed negotiations on these topics. However, it must be possible to provide new ideas and inspiration, to close gaps and loopholes, and to take the various conventions a stage further.

Most importantly, the summit must identify those global trends that the international community has addressed either inadequately or *not at all* ('new ozone holes'), which need to be classified as *potentially very critical* ('early warning') and which can be managed at least to a certain extent by means of *timely adjustment* and/or *preventive measures* ('early braking'). Given the sheer volume of anticipated

requirements and imperative measures, setting priorities in this way can mitigate the risk of pressing problems related to global change being overlooked or ignored.

One of the main challenges is that of global climate change, responsibility for which must be primarily attributed to the world's energy systems. Climate protection policies are doomed to failure unless countries rethink and restructure their energy production and consumption systems, including transport. For this reason, a key component of global sustainability policies should be to develop a global energy strategy aimed at restructuring global energy systems; a global strategy of this kind has been sorely absent until now.

These problems are compounded by others which ensue from the overlapping impacts of global change and which have been given far too little attention to date. For example, the mutual interaction of climate change, on the one hand, and the scarcity and pollution of freshwater resources, on the other, will lead to critical and foreseeable impacts on health that the international community has failed to address in any adequate form. There are grounds for concern that climate change will foster the spread of infectious diseases in many regions, thus weakening the economic basis of the affected economies. Complex problems of this kind can only be combated with appropriately networked policymaking structures. Existing institutions are too fragmented and under-financed to meet these challenges effectively. The WBGU therefore believes that the priority goal for the World Summit on Sustainable Development must be to reform the organizational and financial basis of international environment and development policy.

Feasibility concerns dictate that priorities be set regarding the specific content of such policymaking. The Council therefore recommends that the WSSD strive to adopt selected milestone agreements on particularly important issues, as opposed to many non-binding declarations of intent such as those currently being prepared within the Commission for Sustainable Development (CSD). The WBGU appeals for the following priorities to be set:

1. *organizational reform* of the international environmental policy system,

2. mechanisms for adequate and reliable *funding* of international environmental policy,
3. developing a *global energy strategy* aimed at intensifying climate protection efforts,
4. strengthening the *Biodiversity Convention*, e.g. by establishing a world-wide operating system of protected areas and advancing the development of a *Protocol on Forests*,
5. adopting a *global freshwater strategy*, and
6. convening a world summit to address the implications of global environmental changes for infectious diseases.

The industrialized countries bear a special responsibility to support the adoption and implementation of international treaties in these fields. The non-sustainable patterns of production and consumption in the industrialized countries have direct impacts on developing countries, in particular. In the long term, efficient global sustainability policies are also in the self-interest of the industrialized countries as the impact of their actions is not restrained to other countries. The indirect consequences of global change, such as increasing numbers of environmental refugees or environmental conflicts, can be relevant for the national interests of industrialized countries. For this reason, the WBGU recommends that the Federal Government of Germany use its political influence within the European Union to forge a negotiation position that integrates the various priorities outlined above.

2 Reform the international environmental policy system

In the view of the Council, the central strategic objective for the WSSD must be to reform the organizational and financial basis for environmental policy at the international level. Despite mounting environmental problems, the international community has failed so far to establish adequate structures for combating these problems on a cooperative basis. The United Nations Environment Programme (UNEP) lacks the authority and resources that are needed to bring about major and spirited changes. The UN Commission for Sustainable Development (CSD) was conceived of as a forum for exchanging experience, but has little real influence on the direction of global environmental policy. The secretariats of the various environmental conventions are dispersed around the world and are not networked with each other to an adequate extent. Another aspect is that the programmes of the Global Environment Facility (GEF), the funding instrument for the international environmental conventions that is administered by the World Bank in collaboration with UNDP and UNEP, are nothing more than the proverbial drop in the ocean.

This fragmentation and inadequate funding of global environmental policies generate a pressing need for action at the WSSD. The integrated reform programme advocated here by the Council involves organizational and financial improvements, on the one hand, and improved scientific support for policy-makers, on the other. However, such changes cannot induce a breakthrough in global environmental policy unless they are coordinated with each other and implemented in parallel thrusts (Earth Alliance; WBGU, 2001b).

the World Trade Organization, without dissociating it from the UN system. Other names besides 'Global Environmental Organization' would be conceivable, such as 'International Environmental Organization' or 'World Environmental Organization'.

To this end, the key multilateral environmental treaties and their secretariats should be united under a single roof. Resolutions pertaining to specific environmental conventions would continue to be adopted at separate Conferences of the Parties, which would be 'panels' incorporated within this new international environmental organization (*Earth Organization*; WBGU, 2001b).

Establishment of a GEO will only be accepted by developing and industrialized countries if both are granted effective means for influencing how it is managed and developed. The decision-making process operated by the Multilateral Fund of the Montreal Protocol, in which equal representation is granted to the North and South, or the similarly structured mechanism at the GEF would be possible models to adopt.

The establishment of a GEO would benefit developing countries, particularly since negotiations could then be geographically centralized. All international meetings on environmental policy could be held where the GEO is domiciled, making it easier for almost all developing countries to have a professional team of diplomats and experts in that location. The same would hold true for environmental associations and other non-governmental organizations, especially from those developing countries which cannot afford the current negotiating system based on conferences at different venues around the world.

Establish a Global Environmental Organization

The United Nations Environment Programme (UNEP) should be turned into an autonomous organization. Only in this way can the United Nations obtain the capacity for action needed to manage global environmental problems in an efficacious way. The Council advocates the establishment of a Global Environmental Organization (GEO) along the same lines as

Ensure and improve funding

The GEO will not be able to discharge its designated leadership role in tackling and solving global problems unless adequate funding is provided for environment and development. This means that the material basis for the GEO must first be safeguarded on a long-term basis, an aim that cannot be achieved with voluntary ad-hoc payments alone. The Council firmly believes, therefore, that binding contributions

should be specified by applying the normal UN rates, since the amount paid by each state should be in proportion to its economic strength.

In addition, innovative steering and financing mechanisms should be implemented at the international level. If steering mechanisms are to induce the desired effects, it is imperative to internalize external costs, for example by levying charges or issuing certificates. It is also necessary to provide additional funds to finance projects aimed at reducing the damage inflicted upon poor countries by global environmental change and at helping them to adapt accordingly (flood- and storm-proof infrastructure, dike construction, harbour protection, land-use changes, disaster prevention and control, etc.).

Adapting to the consequences of climate change is also necessary due to overexploitation of atmospheric sinks, in particular by CO₂ emissions. In the climate policy field, it has already been decided to create an adjustment fund that is partly financed with proceeds from the Clean Development Mechanism of the Kyoto Protocol, and partly with contributions from the industrialized countries. Since the main effect of climate change in the warm climate zones will be to change the distribution of precipitation, the adjustment fund should be used, in particular, to safeguard water supplies in the developing countries.

In the case of other global commons, such as international airspace, the high seas and outer space, charges could be imposed on their use (*Earth Funding*; WBGU, 2001b). These revenues must be clearly and directly related to use of commons property and the environmental damage caused by such use. The proceeds should be earmarked and used for monitoring and adjustment measures. In order to gain initial experience with innovative steering and financing mechanisms, charges should be imposed in a first step for using international airspace and the high seas. For both, levying charges would be relatively easy to implement, technically and organizationally. It would then be necessary, in a second step, to examine whether such a system is transferable to other global commons as a means of closing existing gaps in financing.

The following estimates provide a rough idea of the revenues associated with the use of global commons:

- *World ocean*: the total annual market volume for international goods shipping can be roughly estimated at 750–1,000 billion Euro (own calculations based on OECD, 2001b; Maersk Sealand,

2001).

- *Airspace*: air ticket revenues in 1999 were more than 300 billion Euro (own calculations based on IATA, 2001a and b; ICAO, 2001).
- *Atmosphere*: by far the greatest proportion of CO₂ emissions into the atmosphere are due to the combustion of fossil fuels. Rough estimates indicate that, in 1999, more than 500 billion Euro were spent on crude oil purchases alone (own calculation based on US-EIA, 2001).

Besides the innovative financing mechanisms discussed in the foregoing, a welcome move would be for the industrialized countries to honour their commitment, made at the Earth Summit in 1992, to increase substantially the level of financial support they provide to developing countries. Germany's development cooperation effort also bears responsibility for enhancing the capacity of developing countries to cope with crises. It is precisely the poorest countries of the world that are worst affected by global change and its impacts. By contributing only 0.27% of its 2000 GDP in the form of development aid (approx. 5 billion Euro), Germany falls far short of the internationally agreed target of 0.7%, putting it at the lower end of the European scale (estimated figure for 2000: OECD, 2001). Indeed, the severity of problems would even warrant an increase in national contribution to one percent of gross national product (WBGU, 1994, 2001b). In this light, the Council emphatically calls for a substantial increase in development cooperation funding.

Ensure compliance of WTO rules with multilateral environmental treaties

Harmonious interaction between the world economic order and the precepts of environmental protection is a key prerequisite for global sustainability policy to be successful. The WSSD should clearly state that strict environmental standards do not generally weaken the international competitiveness of a given country. The message must also be communicated that a liberal world economic order does not jeopardize sustainability per se, but instead can foster sustainability on account of the economic benefits it generates.

However, this is heavily contingent on measures being adopted to internalize environmental externalities at the national and global level. The instruments of environmental policy should be deployed in such a way as to ensure maximum compatibility with the postulates of a liberal world

economic order. Specifically, this necessitates international procedures for ensuring the reconcilability of multilateral environmental treaties and WTO rules. However, it must be stipulated in clear, unmistakable terms that environmental protection has priority over free trade principles when the two conflict.

The precautionary principle must be assigned greater weight in the WTO rules than is currently the case, and clarity must be achieved over the issue of trade restrictions, relating to non-environmentally sound production processes, as a permissible instrument for preventing transboundary and global pressures on the environment. The question of the reconcilability of WTO regulations with global environmental goals should therefore be placed on the agenda of the WSSD.

In the view of the WBGU, the WTO should not be allowed to act contrary to the interests of global environmental protection. In particular, the articulation and pursuit of environmental goals should be effected in the form of multilateral environmental treaties, preferably under the umbrella of a Global Environmental Organization. A strong GEO would also form a counterweight to the WTO and other (future) treaties for the global economy.

Improve the knowledge base

Scientific panels akin to the 'Intergovernmental Panel on Climate Change' (IPCC) should be established to provide advice and support to the Desertification and Biodiversity Conventions already in place (*Earth Assessment*; WBGU, 2001b). Acclaimed scientists could be brought together in an 'Intergovernmental Panel on Land and Soil' (IPLS) and an 'Intergovernmental Panel on Biological Diversity' (IPBD). Their task would be the provision of ongoing and independent advice to the respective Conferences of the Parties, taking into consideration existing or current research work (e.g. Millennium Ecosystem Assessment, Global Biodiversity Assessment), as well as information to the international public.

Johannesburg also signifies a major opportunity to highlight the importance of multidisciplinary 'sustainability science' and to stimulate ways of supporting it. This type of research aims at integrating the insights provided by different scientific disciplines and feeding the results into development strategies through talks with decision-makers. This would ultimately require transnational research organizations such as those which already exist in other, more traditional fields (CERN, ISS, etc.). The Global Change

Open Science Conference held in Amsterdam in 2001 produced a range of proposals in this respect (IGBP et al., 2001). These recommendations should be discussed in Johannesburg, and initial steps taken to implement them.

RECOMMENDATIONS FOR JOHANNESBURG

- Transformation of UNEP to form a Global Environmental Organization (GEO) with joint North-South decision-making procedures and appropriate levels of funding.
- Introduction of innovative financing and control mechanisms in the form of charges on the use of global commons that are specifically earmarked for projects for reducing damage and for adapting to environmental impacts caused by such use.
- Commitment to increase substantially the amount of funding provided for development cooperation.
- Agreement on international procedures for ensuring the compatibility of multilateral environmental treaties with WTO rules.
- Establishment of international panels of experts on soil degradation and biodiversity, analogous to the IPCC.
- Creation of transnational structures for sustainability science, in line with the recommendations from Amsterdam.

3 Agree on a global energy strategy

Energy supply is essential for prosperity and development. On the other hand, current patterns of energy production and consumption are a major cause of environmental changes at the global and regional level, such as climate change, soil degradation, air and water pollution, and the loss of biodiversity.

Given the extended periods – up to 50 years – over which energy infrastructure is depreciated, a 'strategy of gradual change' (WBGU, 1995) requires that these investment flows be diverted into sustainable channels as rapidly as possible. Broad-based concepts for designing global and regional energy strategies do not exist as yet, however.

Protect climate successfully by transforming energy systems

The major proportion of global greenhouse gas emissions is caused by burning fossil fuels. Climate protection policy must therefore lead, first and foremost, to a fundamental change in energy systems worldwide in order to mitigate the serious threat that climate change poses to our natural life-support systems.

The resolutions adopted in Bonn at the resumed Sixth Conference of the Parties to the Framework Convention on Climate Change have established a basis on which the Kyoto Protocol can enter into force. The Council assesses the outcome of the Bonn Climate Conference as an important starting point for international climate protection policy.

However, the version of the Kyoto Protocol that was agreed upon in Bonn dilutes the original reduction targets in a very questionable manner. The Council levels particular criticism at the crediting of sinks, and the fact that no comprehensive carbon balance needs to be submitted as a reference point for monitoring. In the case of forestry projects carried out with the aim of crediting sinks, it is essential to consider and foster their relevance for biodiversity as well, not only their function as carbon sinks. Regulations to this end must be agreed and coordinated with the Biodiversity Convention.

These deficiencies must be eliminated at the negotiations for the following commitment period, so that the Kyoto Protocol can actually have a beneficial impact on the climate and thus enable a reduction in adjustment measures. This precondition must be met before developing countries can be included in (higher) quantitative commitments. The legal status of compliance monitoring systems has yet to be clarified. The EU should utilize its role as opinion leader on climate protection policy to steer further developments in this direction.

For international climate policy to be effective, it is essential to specify a 'guard rail', i.e. the extent of climate change that can no longer be tolerated. The Council has already proposed a first definition of such a 'guard rail' (WBGU, 1995, 1998b): global warming in excess of 2°C (relative to the pre-industrialization value) and a rate of warming in excess of 0.2°C per decade denote the climate changes that must be avoided at all costs. On the basis of these limits, it is possible to derive a global emission pathway as well as reduction targets for the medium and long term. The figure calculated and recommended by the Council was an annual global reduction in greenhouse gases of 1% per year over the next 150 years (WBGU, 1995, 1998b).

The distribution of reduction commitments in the future should be based on clearly defined and acceptable criteria, such as 'equal per capita emissions' as a basic equity principle. In detail, consideration could be given to different energy consumption needs, depending on climate zone, potentially misguided incentives for population growth, and the risk of excessive quotas. The Council thus derived its recommendation that, by 2050, the industrialized nations should reduce their emissions by 77% relative to the 1990 baseline (WBGU, 1995, 1998b).

Even if the Kyoto Protocol is ratified and further developed for future commitment periods, climate protection policy can only mitigate, but no longer prevent the global climate change that is primarily anthropogenic in origin. For this reason, it is absolutely imperative to adapt to present climate

changes and to the accelerated pace of climate change that is likely in the future. In addition to adaptation, it is essential that precautionary measures are implemented as well. This can only be done by transforming the world's energy systems.

Adopt a World Energy Charter

The Federal Government of Germany should use its influence to ensure articulation of a global energy strategy – for example, in the form of a World Energy Charter – in which regional and national energy strategies are embedded. This Charter should supplement the existing Energy Charter Treaty, which is primarily an economic treaty, and lay greater emphasis on the sustainability aspect. The World Energy Charter should determine guard rails for sustainable development in the energy field, thus defining the scope for action on the part of regional and national policymakers. It must include the transport sector as one of the most important consumers of fossil fuels. The Charter should contain long-term objectives for energy efficiency technologies, for the technological exploitation of renewable energy sources, as well as incentive-based instruments for promoting such energy sources and encouraging energy-saving behaviour among consumers. Basic principles for shaping competitive frameworks (de- and reregulation, subsidies, statutory regulations, etc.) must also be defined and applied.

Reduce subsidies for non-sustainable energy production and internalize external costs

Present-day patterns of energy supply and consumption are wasteful on the whole and basically stem from a system of misguided incentives established over a period of decades. Rather than making energy more expensive, in order to internalize the external environmental costs of energy consumption, energy consumption is actually heavily subsidized in many places – subsidies in the global energy sector have been estimated at more than 180 billion Euro per annum (UNDP and WEC, 2000). This figure excludes the transport sector. The bulk of these subsidies have adverse impacts on the environment.

The creation of sustainable energy systems is conditional on efficient markets, compliance with environmental guard rails and effective measures for internalising external costs. The latter principle is particularly important in connection with emissions of climate-forcing trace gases – the first step towards

internalization is to impose levies that conform to market rules and are based on the CO₂ emissions of the respective energy source.

The Federal Government of Germany should strive for a convention in which the signatory countries agree to phase out energy price subsidies and subsidies on non-sustainable energy technologies (oil, coal, nuclear energy and large-scale, environmentally unsustainable hydropower). The deadlines for adaptation must be specified in a binding manner, taking into account the socioeconomic and ecologic situation in the respective countries at the relevant baseline.

Develop targets for renewable energies and promote energy efficiency

When establishing markets for renewable energies and energy efficiency technologies throughout the world, continuity over many years is just as important as absolute targets. Incentives, too, are essential for creating markets in renewable energies and for restructuring the energy industry, but they should operate for limited periods only and be reduced over time.

Incentive systems should not be purely focused on existing technologies and those that are already less expensive, but should foster research and development of new technologies for increasing both energy efficiency and the use of renewable energies. Long-term targets for renewable energies and energy efficiency technologies should thus be defined at all levels.

There are numerous instruments which could be deployed in order to attain such targets (quotas, green certificates, prices paid for inputting heat, power and gas to the public grids and networks, statutory regulations, especially with regard to building standards, etc.). National and regional strategies should be developed, disclosed and discussed within a network for exchanging experience. A special role is played here by energy suppliers. As global players with major financial resources, they must be integrated as partners, and agreements concluded to provide a framework that is binding on their operations.

Invigorate climate protection by modifying transport policies

The role of transport has been neglected in climate policymaking to date. The growth rates forecast for the transport sector are jeopardising compliance with

the commitments entered into by the OECD states in the Kyoto Protocol, even when technical progress is taken into consideration. In these countries, almost 30% of CO₂ emissions on average are attributable to transport. If only for climate protection reasons, transport should therefore form an agenda item at the WSSD.

Transport is also one of the main causes of local, regional and international atmospheric pollution and a principal factor behind marine pollution. Creating new transport infrastructure causes fragmentation of areas worthy of protection, as well as loss of biological diversity. In cities, especially, transport-related emissions of various substances cause increased susceptibility to respiratory and coronary diseases, to lead and carbon monoxide poisoning and to greater cancer risks. In many developing countries, traffic accidents are one of the most prevalent causes of death.

Building efficient transport systems is important for the economic development of developing countries, particularly in Africa. The rapid growth of traffic projected for the future must be kept within environmentally sound limits, with help from the international community, by ensuring that the right priorities are set when transport infrastructures are being

expanded. The WSSD should adopt principles for sustainable development in the transport sector. The Federal Government of Germany should appeal for a Programme of Action on transport policy, in which the objectives for sustainable transport systems are also specified.

A Programme of Action could improve acceptance for the development of sustainable transport systems. Developing countries aiming to expand their transport infrastructure should receive guidance on how to avoid unsustainable developments and on using sustainable leapfrogging technologies. In order to speed up the pace of international negotiations, the Federal Government of Germany should exert pressure so that the European Union imposes a levy on kerosine fuel in aviation prior to the WSSD, even if other states are not immediately in favour. This could fortify Europe's leadership role on environmental issues.

RECOMMENDATIONS FOR JOHANNESBURG

- Reach agreement on a global energy strategy in the form of a World Energy Charter, in which regional and national energy strategies are embedded. Definition of long-term targets for the deployment of energy efficiency technologies and renewable energy sources.
- Commitment to phase out the subsidization of unsustainable energy technologies and energy prices, and to agree measures for internalizing external costs.
- Develop a Programme of Action with goals and principles for sustainable development of transport systems.

4 Biodiversity: intensify protective efforts

In the run-up to the WSSD, it has been pointed out quite correctly that the purpose of the conference must not be to renegotiate existing conventions, or to intervene in ongoing negotiations in respect of those conventions. As far as biodiversity is concerned, therefore, the WSSD must focus, from the broader perspective, on identifying where implementation is lacking, where gaps exist in present regulations, and on providing stimulating input in the search for new solutions. This stimulation is urgently needed, because for all the encouraging successes being achieved at regional level, the 'sixth wave' of human-induced biodiversity elimination (WBGU, 2001a) is continuing apace. Implementation of the Biodiversity Convention in the states and regions can only be described as unsatisfactory. There seems to be a lack of political will to provide international regulations with the requisite enforceability where it really matters.

One example is the perennial demand that a global system of protected areas comprising at least 10–20% of the total land area be established (WBGU, 2001a). In most regions of the world, this figure is nowhere near reached, and many protected areas are poorly managed. Another example concerns invasions of non-native species; in global terms, this is the second most important case of biodiversity loss after land-use changes. National regulations for the protection of native species in agriculture should be standardized and made tougher in an effort to improve implementation. The declaration to be adopted in Johannesburg should prioritize these issues.

Not only are existing treaties poorly implemented, there are also regulatory gaps – especially with regard to the protection of biodiversity. If the causes of biodiversity destruction are to be effectively combated, it is imperative that the following serious gap in international law be filled as a matter of urgency.

Provide impetus for negotiating a Protocol on Forests

In the field of land-use changes, deforestation continues to be a cause for concern. Forecasts are dismal

for many of the tropical rainforests, which aside from a few 'islands' are likely to disappear entirely over the next twenty years. With unabated intensity, over-exploitation continues to afflict upon the large forested areas in the northern industrialized and newly-industrializing countries.

This is one field in which there is still a severe regulatory gap – to this day, there is no international, legally binding basis for the sustainable management of forests. At the 1992 Earth Summit in Rio de Janeiro, the idea of adopting a separate Forests Convention failed to get off the ground. The result was merely a non-binding 'Forest Declaration'. Recent years have witnessed repeated efforts to reactivate this topic within international environmental policy-making. Considering the sheer speed at which tropical forests are being cleared, the discussion is proceeding too slowly in more and more new UN fora (IPF, IFF, UNFF) for any effective instrument, binding under international law, to result.

The WSSD should therefore signal in all clarity that an efficacious regime for protecting the world's forests must be quickly established. The Council has repeatedly called for a Protocol to the Biodiversity Convention (WBGU, 1996, 2001a). Even when highly complex and controversial issues have been involved, solutions have nevertheless been found

RECOMMENDATIONS FOR JOHANNESBURG

- Call for better implementation of the Biodiversity Convention by the Parties.
- Joint commitment to establish a worldwide system of protected areas comprising 10–20% of the total land surface.
- Impetus for negotiating a Protocol on Forests to the Biodiversity Convention.

within the scope of the Convention, as shown by the Biosafety Protocol. The Biodiversity Convention is the authoritative one for forests anyway, since they generally form centres of biodiversity. Furthermore, the broad scope of the Convention embraces conservation, sustainable management and benefit sharing in equal measure. For that reason, the options already provided by the Biodiversity Convention should be exploited more intensively prior to concluding a new Protocol on Forests .

5 Support the sustainable management of freshwater resources

As a consequence of anthropogenic climate change, the conversion of natural ecosystems, population growth and progressive urbanization, global change will exacerbate the freshwater resources problem and trigger severe crises. Computer models indicate, for example, that precipitation levels will tend to increase in those zones that already receive an abundance of rain, but are more likely to decrease in arid areas. One impact of this trend is that the expansion of irrigation schemes will no longer be possible in the states of North Africa, the Near East and the Middle East, which all have a very high rate of population growth.

The poor in developing countries are the worst affected by freshwater scarcity. Today, already, more than one billion people have no access to safe drinking water (WHO, 1997). Contamination of this scarce resource is another core problem: only 5% of the world's wastewater is treated or purified. In many cases, economic incentives of the wrong kind result in waste of water. In the few developing countries that have long-term plans for managing their freshwater resources, these plans are not dynamically adjusted to match changing conditions. The financing of incremental costs for adapting to the regional impacts of global climate change has still not been clarified.

The Federal Government of Germany should make every endeavour to ensure that the global water crisis receives appropriate attention at the WSSD. The International Freshwater Conference, to be hosted in Bonn by Germany in December 2001, provides a good opportunity for preparatory work in this direction. The supply of water to the poorest parts of the world population was a correct choice as the focal point of the conference. Technology transfer to the developing countries should also be prioritized. In addition, the Bonn conference should serve as a discussion platform for a 'World Water Charter' (WBGU, 1998a), which could then be made a core topic at the WSSD.

Specify details of the human right to water

Priority goals of international environment and development policy should be to ensure a basic supply of water and to specify what the human right to water means in practice. The human right to water is derived directly from the right to food established in Article 11 of the International Covenant on Economic, Social and Cultural Rights (the 'Social Covenant', in force since 1976). In 1999, the Committee on Economic, Social and Cultural Rights set up under the Social Covenant commented in detail on the human right to food and the extent of that right. The Committee emphasizes the need to specify how the right is implemented at the national level by developing national strategies and timetables capable of being monitored, making express reference to the obligation on the part of industrialized nations, as defined in Article 2, to support other states to implement the right to food through 'international assistance and cooperation'.

The WBGU recommends that the Federal Government of Germany take steps to ensure that a supplementary comment on Article 11 of the Social Covenant explicitly state that the right to clean water is an integral element of the right to food. The Council also recommends that the Federal Government support the prompt adoption of the Optional Protocol to the Social Covenant as discussed in the UN Commission on Human Rights, on the basis of which an expert panel can examine complaints lodged by individuals and issue semi-judicial verdicts.

Implement the 20/20 Initiative

At the 1995 World Summit on Social Development, the international community endorsed the so-called 20/20 Initiative. This states that 20% of official development aid from donor countries and 20% of the national budget of the receiver countries shall be allocated to basic social programmes (drinking water and sanitary facilities, basic health services including reproductive health care, basic education, elimina-

tion of malnutrition among children and mothers). Current figures for both sides fall far short of this target. On the donor side, the average now spent is around 11% of total aid.

In the context of the 20/20 Initiative, a global consensus was reached on the definition of basic social services for eradicating absolute poverty. These services include access to clean water. The list of basic social services is also characterized by a high degree of complementarity and synergies – for example, the effectiveness of basic health services is reduced when the literacy rate of women is low, or when people do not have access to clean water. The Federal Government of Germany should fulfil its obligation to increase the proportion of bilateral development aid that is spent on basic social services to 20% and, having established that basis, to insist in Johannesburg on international implementation of the 20/20 Initiative.

As a basic principle, implementation of a sustainable freshwater policy should be financed according to the subsidiarity principle. In order to finance the construction and/or expansion of distribution networks, use must be made not only of the international capital markets, but also of bilateral and multilateral development aid, particularly in the form of public-private partnership models (WBGU, 1998a). It is also necessary to draft and implement sustainable concepts for technical assistance strategies that prioritize wastewater recycling, seawater desalination and the use of renewable energies to supply and purify water. However, this kind of approach can only lead to success if it is combined with urbanization and regional planning.

The Federal Government of Germany should also strive at the WSSD to ensure that the international community apply the strategic priorities and policy principles proposed by the World Commission on Dams to mega-projects with unforeseeable environmental and social impacts (WCD, 2000).

Foster the efficient supply of water

Sustainability of water resource management systems implies protection of health and the environment, a reliable water supply for all, and economic efficiency. Provided that policy principles on health, environment and water supply are effectively in place, permitting greater competition in the water management sector can be a viable option.

As in liberalized energy markets, it makes sense to distinguish, for water as well, between the provision

of water supply networks, the conveyance of water and the delivery of water supplies. Introducing competitive elements, especially with regard to water supplies, and supporting this with a national regulatory framework, seems, in the view of the Council, to be the right path to take. Appropriate access to water must be safeguarded, e.g. through general transfers, for those sections of the population that are unable to pay water prices which reflect the scarcity of this resource.

RECOMMENDATIONS FOR JOHANNESBURG

- Adoption of a 'World Water Charter', including the following elements: Improving water supplies (under the 20/20 Initiative), securing access to water for the poor by means of general transfers, fostering competitive elements in water resource management.
- Recognition of the human right to a basic supply of clean water on the basis of an accepted interpretation of the right to food established by Article 11 of the International Covenant on Economic, Social and Cultural Rights.
- Launch an Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, specifying a complaints procedure for use by individuals.

6 Confine the effects of global environmental change on infectious diseases

New research findings indicate that the topic of health must play an increasingly important role in responses to global change. This means, in particular, that everything must be done to prevent the spread of infectious diseases, which is favoured by the combined effect and interaction of a series of global environmental changes:

- Insects which carry tropical infectious diseases can spread to areas in which they could not previously survive. This increases the number of people who are exposed to malaria, dengue fever, etc.
- The incidence of waterborne infectious diseases will increase: firstly as a result of more frequent floods, which cause contaminated surface water to penetrate drinking water sources and wells, secondly due to the increasing scarcity and poor quality of drinking and sanitation water, especially in developing countries.
- These trends may be exacerbated by an effect that has received little attention so far and which is caused by increased levels of UV-B radiation due to thinning of the ozone layer. Research indicates that such radiation can impair the general immune response of the human body, in addition to other, known effects on skin and eyes. Reduced immune response can lead to higher incidence and greater severity of infectious diseases, and to vaccinations having less effect.
- Bacterial poisoning of foodstuffs is favoured by higher temperatures.

Parallel to such trends, there is also a disjunction to be observed between the increasing resistance of pathogens to drugs, on the one hand, and the declining efforts on the part of the pharmaceutical industry to improve or develop new drugs against tropical infectious diseases such as malaria, on the other. Yet health care in the developing countries is reliant on medical advances in the industrialized countries.

Health protection measures enjoy a high level of acceptance in society and for that reason are a suitable vehicle for recruiting the necessary political support for global sustainability strategies. Therefore, a key objective for Johannesburg should be to place 'combating infectious diseases' firmly on the international agenda.

Develop drugs and vaccines against infectious diseases, and improve access for those in need

Global change and the increasing resistance of pathogens are factors requiring intensified development of drugs and vaccines against infectious tropical diseases. Public-private partnerships could lead the way here (e.g. MMV – Medicines for Malaria Venture) and should also be supported with government funding. It is also important to modify patent law to take account of the needs of the population in poor countries, while at the same time providing new incentives in developed countries to research and develop drugs and vaccines. As shown by the example of drugs against HIV/AIDS, enormous problems are encountered when trying to supply and distribute such drugs in poor countries. The WBGU therefore appeals for binding commitments to the Global Health Fund demanded by the United Nations and the G-8 nations, so that prices for drugs and vaccines in developing countries can be lowered.

Improve health services and monitor the incidence of infectious diseases that are favoured by climate change

Inefficient and under-financed health services are a major obstacle in the developing countries for delivering the necessary drugs and vaccines to those who need them. The developing countries should assign clear priority to the health sector in their development strategies and programmes for eradicating poverty. Every developing country should establish a national, trans-sectoral health strategy, involving all

groups concerned, to ensure that donated funds are used efficiently. The industrialized countries should intensify their support for basic health services as part of their development cooperation effort; in particular, the 20/20 principle should be implemented in support of basic health services.

Monitoring infectious diseases that are favoured by climate change must be intensified by setting up sentinel surveillance sites in the developing countries and by networking existing institutions in the industrialized countries. Support must be given in this context to the intensified efforts of the WHO.

The WBGU recommends that the Federal Government of Germany use its influence to ensure that the impacts of global change on health be made a key agenda item at the WSSD, thus closing a serious gap in AGENDA 21. In addition, a decision should be made to focus on this increasingly important issue at a separate world summit. With a summary analysis of the situation, such a summit could draft proposals for further action at the international level – in the form of a focused Programme of Action, for example.

RECOMMENDATIONS FOR JOHANNESBURG

- Commitment on the part of the industrialized countries to intensify support for research and development of vaccines and drugs against infectious diseases favoured by climate change.
- Binding financial commitments by industrialized countries for the Global Health Fund.
- Use of the 20/20 Initiative to improve health services in developing countries.
- Convene a world summit meeting on the effects of global environmental change on infectious diseases.

SUMMARY: LAUNCH STRATEGIC INITIATIVES

Little time remains until Johannesburg. The success of the World Summit on Sustainable Development (WSSD) is critically dependent on how the intervening period is used for strategic initiatives. The Federal Government of Germany has repeatedly acknowledged its global responsibilities in the field of environment and development policy. In the run-up to Johannesburg, the Federal Government can accept the challenge, as part of the European Union, of a leading role in the global sustainability debate and in that way act commensurately with the increased importance of our country in international politics since 1990.

There is more to such a decision than the ethical and humanitarian extension of German foreign policy. Given the burgeoning of interrelationships and mutual interdependencies in the world, it is in Germany's immediate interest that the risks inherent in global change be warded off by preventive and curative strategies and programmes implemented by the international community. The Federal Government of Germany cannot achieve a high level of security, sustained prosperity and social stability unless it is prepared to cooperate closely on policymaking at the international level.

Strategies for surmounting the problems that exist have a price. The politicians, business community and population in Germany must accept the fact that international efforts will require higher levels of funding than has hitherto been the case.

The World Summit on Sustainable Development follows on from the International Conference on Financing for Development to be held in March 2002. This proximity in time is increasing the pressure on North and South to reach agreement on these issues. If the latter conference is to succeed, the industrialized countries must accept the justified demands of developing countries for structural reforms at the global level and for greater transfer of resources. The WBGU considers this to be a crucial prerequisite for success at the WSSD. In the time that is left, the Federal Government of Germany should deploy all the means at its disposal to mobilize political support, not only within the European Union, but also in strategic alliances with developing countries. In doing so, it should follow on from the Global Initiative launched by the previous Federal Government of Germany in 1997. The World Summit on Sustainable Development is a rare opportunity to achieve key milestones in international environment and development policy. That opportunity must be exploited.

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