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Sustainable Development: Characteristics and Interpretations

Edwin Zaccai, Brussels

This paper portrays the main characteristics of sustainable development politics. It will be shown that each of these characteristics is subject to interpretation and debate. Far from being that «broad, easy path where all kinds of folks can walk along together» described by DONALD WORSTER (1993: 132), «sustainable development», caps a whole series of unresolved debates on development, the environment, participation, economic internationalisation, or the use of technologies.

1 Policy for a new millennium

The notion of sustainable development is inseparable from its function of organising and legitimizing action. As PEARCE (1993: 183-184) stated: «The phrase 'sustainable development' has staying power because most people want to believe in it. It survives because it appears to build bridges between the demands of environmentalists and developers. It sounds comforting – human well-being and economic security forever – not brought to heel by ecological collapse or social distress. It is an article of faith, and in that sense almost a religious idea, similar to justice, equality and freedom.»

Sustainable development has other connotations that tend to make it appealing. A long-term project, for example, is appropriate at the advent of the millennium because it will shape the future. At a time of accelerating changes, when products and fashions are ephemeral, when markets are volatile and traditional references disappearing, the very idea of duration seems like an antithesis. In developed countries where people may be afraid of losing the standard of living, sustainable development comes across as capable of preserving the best of this development in a lasting way, adding to it qualitative and environmental values.

«Development that meets the needs of the present without compromising the ability of future generations to meet their own needs» was the concise definition of sustainable development contained in the BRUNDTLAND Report (WCED 1987: 43) that opened the way to the Rio Conference in 1992. It is when this is put into practice, of course, that conflicts resurface. What this notion gains by taking into account different objectives risks being lost by the imprecise definition of priorities (or different «needs»). This leaves the parties with the task of reaching an agreement, and the merit of «bringing everyone around the same table» with a series of sensitive issues on the agenda. But if there is little change in the balance of power between the parties, such as «the

North» and «the South», there will be little change in the established order. Concomittantly, there will be neglect of many different local situations.

One of the consequences of this is that certain aspects of sustainable development are only achieved when several parties are the beneficiaries. These are «win-win» situations like eco-technologies which also generate savings. In other cases, a «win-win» situation may be suboptimal when «sustainable development» is more or less «relabeling» and reduced to retaining just an adequate facet of it.

2 For or against sustainable development?

Despite these pitfalls (see SACHS 1993; RIST 1996; CETRI 1995; WORSTER 1993) the notion of sustainable development is of great theoretical and practical interest. In addition to being applicable to our time sustainable development is part of the institution-building process the environmentalist movement has been propagating. In this, the movement itself lost some of its radicalness (PALLEMAERTS 1995) but became more widely accepted and supported. As a result, public authorities had to make commitments for which they can be held accountable and initiatives are under way to stem the adverse effects of industry. Local authorities have begun implementing «local Agendas 21» (LA 21). A multitude of initiatives has appeared with a specific interpretation of sustainable development that serves to overcome traditional divisions.

This will be shown by a series of interpretations regarding the implementation of sustainable development (see Table 1). For this, programmes developed by public authorities such as the UN as one of the leaders in this field, and LA 21 programmes (ICLEI 1997) are examined. The view of the business world will be illustrated by the position of the World Business Council for Sustainable Development (WBCSD 1992; 1997). Furthermore, the view of a recent branch of economics («ecological economics», see HARRIBEY 1998; GODARD 1994) will be analyzed. The position of environmental NGOs is represented by the work of Friends of the Earth (FoE) (CARLEY & SPAPENS 1998). Finally, a series of authors critical of development will be called upon to inject a dose of skepticism. Of course, these choices are in part arbitrary. For other papers highlighting the basic components of sustainable development, see, for example, LÉLÉ (1991), GODARD (1994), NATH, HENS & LEVEUYST (1996), FABER and al. (1995), HARRIBEY (1998). For a comparative reading of this notion as presented in official and theoretical texts, see DEFRISE (1998).

Official/Public Sector:

United Nations
European Union
Local Agenda 21

Private and Non-profit sectors, others

Ecological Economics
Business
Environmental Non Governmental Organisations
Development Critics

Tab. 1: Levels and interpretations considered
Niveaux et approches considérés
Untersuchte Ebenen und Betrachtungsweisen

3 Major characteristics of sustainable development

3.1 Characteristic 1: Environmental problems as a major cause of the current development crisis

The impact of development on the environment is at the heart of the debate on sustainable development (see Table 2). What is new about the idea that (economic) development can harm the environment is primarily the emphasis: the magnitude of environmental damage suffered can itself cause major harm to development. This assertion appears quite clearly in the BRUNDTLAND Report (WCED 1987) and in the Friends of the Earth campaign (CARLEY & SPAPENS 1998).

But working on this premise, to what extent should development be restructured? Is it enough to change the management of the environment? This is the approach of the European Union whose sustainable development programme is a programme managed by the Environment Division (UNION EUROPÉENNE 1992). Or should there be more in-depth modifications? In keeping with the environmentalist programmes, Friends of the Earth leans in this direction. «Ecological Economists» too, hold the notion that the environmental crisis challenges the basic functioning of the economy. Critics of the classic development approach diagnose a development crisis already prior to and regardless of any environmental problems. As a result, the paradigm of development (as economic growth) is rejected and the concomitant unsuitable or undemocratic solutions and growing inequalities.

3.2 Characteristic 2: «Limits» of the planet facing growing population and human impact

Whereas the first characteristic addresses our multifaceted relationship with nature in general terms the second characteristic is more targeted. In the definition given by the WCED and the Rio Conference, nature is seen as a world resource base. The BRUNDTLAND Report very significantly begins with the view of our planet earth as finite space. The 1972 Club of Rome report

«Limits to growth» remains the paradigm of this vision (CLUB OF ROME 1972).

The view of nature as a resource led economists to introduce the notions of weak and strong sustainability (PEARCE 1993; DALY 1973; COSTANZA 1991), referring to the possibility and practice of substitution of natural resources with other resources. The extent to which natural elements can be replaced defines «weak» sustainability. By contrast, the more natural elements, a prestigious natural site, for example, are preserved without allowing substitution the stronger is sustainability. Thus, «limits» are eminently variable, indeed, «economic history is the history of substitution among factors of production» (CRABBE 1997: 31).

The global concern with defining «limits» is justified in several ways:

- a series of movable resources (e.g. raw materials) can actually be evaluated in the form of a world stock although this is a function of technology
- large parts of the environment (atmosphere, ozone layer etc.) are common to the planet as a whole or to vast areas of it (e.g. oceans)
- elements of the environment whose destruction is irreversible (for example, the city of Venice, the tiger as a natural species) can be considered «mankind's heritage»
- other forms of globalisation regarding the economy, transport, or multiculturalism raise awareness of global conceptions.

It is important, however, to understand the differences between these limits in a very general way and their specific regional or local effects:

- if resources are movable, they cannot be moved at zero cost. World food resources are a case in point. There is enough food today to feed the world's people, but glaring shortages nonetheless exist at regional levels;
- even if an environmental asset is considered part of the world's heritage, locally it is part of economic or political systems that act and interact under constraints. The government of a country does not necessarily recognise the same limits on its harvesting of national forests as international programmes do;
- damage to a common environment like the increased greenhouse effect in the atmosphere may have different consequences from one region to another.

Therefore, «limits» can be properly evaluated only if the interaction between global and local dimensions is understood. Neither the global nor the local perspective alone can adequately show the influence one place can have on another one.

The notion that resources have limits, and the idea that the environment is economic capital, is nevertheless widely accepted in sustainable development approaches, and the monetary value attached to the environment

by some is quite impressive: «For the entire biosphere, the value (most of which is outside the market) is estimated to be in the range of US\$ 16-54 trillion per year (...) Global gross national product total is around US\$ 18 trillion per year» (COSTANZA [et al.] 1997). The problem of the world's limits is clearly underlined by the UN. Of the groups examined here, FoE is probably the one most cautious about global (or sometimes regional) limitations by defending that this notion implies that each country be guaranteed equitable «environmental space». In the context of «weak sustainability» the WBCSD (1992; 1997) expects technology to give an orientation to tomorrow's markets, and transnational corporations, in particular. Given rapidly growing consumption, the limits could then be internalized. Only the Local Agendas 21, as local programmes, are to a smaller degree concerned with the limits issue and tend to view the environment as a living system that just needs to be managed properly.

The «development critics» have reservations towards these approaches. LE BRAS (1994) for example sees in them misinterpretations of demographic developments in the South and suspects the North of adopting an anti-demographic view that mask the real problems: maldistribution of resources and overconsumption by few countries. Many authors, then, reject the way in which this impediment to development in the South is legitimised with constraints that the North did not have to take into account when it developed (SACHS 1993; CHATTERJEE & FINGER 1994; CETRI 1995).

3.3 Characteristic 3: multisectoral (environmental, economic, social) and multidimensional approaches (global, local)

Sustainable development is a «comprehensive» approach to development. Its UN version focusses on social dimensions. These dimensions serve as a partial justification for new avenues to development with the aim to correct differences in living standards. They are explicit parts of programmes like Agenda 21 (UNCED

1992). Nonetheless, an examination of other basic United Nations texts on development, for example the Development Agenda (GHALI 1995) or a number of older texts (see, for example, RIST 1996), reveals similar approaches to social problems. From a social point of view, then, sustainable development reaffirms the previous approach. Its originality stems from its elaborating links between social and economic problems and environmental management: On the one hand, social priorities have to be recognised in environmental management. On the other hand, there has to be community involvement for more effective results of environmental management (LÉLÉ 1991). The term «sustainable», even if it is applied to the social dimension, is still usually used in an ecological sense.

This does not mean that propagators of sustainable development are not actively seeking to incorporate the social dimension as recent efforts by local authorities in some LA 21 programmes indicate. CARLEY & SPAPENS (1998) explicitly address equity, although the focus is still on «environmental space». At the European level, however, there appears to be little interaction between social policy and sustainable development. This is also true for most conceptualizations by ecological economists. Current work on challenges to the economy (BEAUD 1997; ENGLEHARD 1997; AYRES 1998) incorporates ecological aspects but does not apply the concept of «sustainability» to the entire socio-economic spectrum.

The global local dialectic, too, is subject to various interpretations. According to some «development critics», development programmes promoted on a global scale tend to originate in Western economies and do not take into account the different local situations and needs of different countries (CHATTERJEE & FINGER 1994; SACHS 1993; RIST 1998). Advocates of the UN approach may claim that global approaches are necessary and that these programmes do make allowance for different local situations. Yet, the fact that «partnership» and «aid» are not seriously implemented is probably the

1. Environmental problems as a major cause of the current development crisis
2. «Limits» of the planet facing growing population and human impact
3. Multisectoral (environmental, economic, social) and multidimensional approaches (global, local)
4. Environmental protection as integral part of the development process
5. Technology as a major medium for the implementation of sustainable development
6. Compatibility with a free market economy that would integrate the environment in its economic regulation
7. Equitable pursuit of developmental and environmental needs of present and future generations
8. Changes in awareness (values, education) and ethics (in the relationship to nature in particular) as prerequisites for sustainable development
9. Involvement of the private and public sectors at all levels

Tab. 2: Main characteristics of sustainable development at the UN level
Caractéristiques principales du développement durable dans l'approche de l'ONU
Kennzeichen der «Nachhaltigen Entwicklung» auf der Ebene der UNO

most important factor that disqualifies global programs in the eyes of a number of developing countries.

At the local level, the interaction between local and global (the well-known UN motto in Rio «Think globally, act locally», a notion also found in the strategy of transnational corporations) is an attempt to come up with specific forms of environmental management or responsible consumption (ZACCAÏ 1999a, b). This, however, is far from easy, given the extraordinary interpenetration of effects and relations.

3.4 Characteristic 4: Environmental protection as integral part of the development process

For the European Union, this integration is the core of sustainable development compared to previous environmental policies. But the attempt at integrating environmental protection should not conceal the real difficulties that arise when there are additional constraints in political decision-making processes. Even when environmental protection is integrated there is, of course, the problem of measuring its effectiveness. This raises the question of adequate indicators. Although there has been a proliferation of environmental indicators over the past few years (MOLDAN & BILLHARZ 1997; OECD 1997) there is still the problem of (time series) data. And again, even with indisputable data, there has to be a genuine political will to take this data into account and make difficult choices. Based on a set of assumptions (equitable «environmental space») CARLEY & SPAPENS (1998) describe the profound changes that would result from such an integration.

In the UN approach to sustainable development, the instruments integrating the environment in the policies are the following (UNCED 1992):

- legal instruments: compensation of victims; no transfer of pollution and information obligations between states; transfer of knowledge; participation
- technology management instruments: impact studies; adaptation of standards; precautionary measures; technology transfer
- economic instruments: open international trade system, internalisation of costs.

3.5 Characteristic 5: Technology as a major medium for the implementation of sustainable development

Here the notion of «eco-efficiency» – the environmental impact per unit of consumption – is relevant. It provides a convenient common denominator to designate the improvements expected from technologies. The efficiency of technology is in fact one of the factors that may serve to reduce the pressure of human activity on the global environment: Using the equation by PAUL and ANNE EHRLICH (1990) as reported in EKINS (1993) one can see the scale of the technological challenge if both sustainability and GNP growth are to be achieved. This equation relates «environmental impact (I) to the pro-

duct of three variables, population (P), consumption per capita (C) and the environmental intensity of consumption (T). The last variable captures all the changes in technology, factor inputs and the composition of GNP. Thus $I = PCT$. As applied by EHRLICH «the environmental impact of each unit of consumption would need to fall by 93% over the next 50 years to meet (...) sustainability». (EKINS 1993: 92-93).

These factors have been used with different variations. The CLUB OF ROME (1992: 102), for example, uses «Impact = Population x Affluence x Technology». The results invariably show that eco-efficiency must increase drastically. The «Rio+5» Programme (ONU 1997) adopted the idea of an improvement by a factor of 4, then 10, of eco-efficiency in the medium and long-term, respectively. It remains to be determined whether or not an accompanying increase in consumption will absorb the gains thus derived, as feared by EKINS (1993), CARLEY & SPAPENS (1998) or the CLUB OF ROME (1992).

It also remains to be seen whether or not the technologies relate better to local needs and conditions. Sustainable development actually introduces new constraints and undesirable effects regarding environmental and possibly social externalities. Application of the precautionary principle leads to changes in the relationship between science, technology and policy in a more comprehensive and complex sense (GODARD 1996). Even with these adaptations, it remains to be determined what impetus and procedures are needed for a consequent transfer of technologies under conditions advantageous for the South.

3.6 Characteristic 6: Compatibility with a free market economy that would integrate integrates the environment in its economic regulation

Quoting the 1992 World Bank definition, «Sustainable development is development that lasts» (SACHS 1995: 10), development critics accuse sustainable development of pursuing classic development planning and growth objectives without any clear change of policy, and even giving old style planning renewed legitimacy (RIST 1996).

Most of the proponents of sustainable development do not challenge the growth objective but argue for more or less profound changes regarding its content, quality and its application depending on the country. The WCED (1987: 44), for example, explains: «Meeting essential needs depends in part on achieving full growth potential and sustainable development clearly requires economic growth in places where such needs are not being met. Elsewhere it can be consistent with economic growth, provided that the content of growth reflects the broad principles of sustainability and non-exploitation of others. But growth by itself is not enough.»

Compatibility with growth has done much to make sustainable development acceptable in institutional and

business circles. In its implementation, however, one sometimes tends to forget that profound changes within this type of growth are also required. The debate cannot be reduced to a question of «for or against growth». Just as development which gradually consumes finite resources cannot last forever (it is in fact an «oxymoron»), the growth of certain parameters can be beneficial socially without causing extreme harm to nature. There is, however, a clear gap between the objective of sustainable development and its operationalization. What appears to be useful here is a comprehensive reevaluation of the predominant economic thinking (BEAUD 1997; AYRES 1998; ENGLEHARD 1997). The reform of indicators and the inclusion of externalities are part of achieving environmental responsibility and the objective of equity, as does the opening of borders or removal of trade barriers. It is worth noting that this, too, would not be enough to favour the goal of equity if one is to believe E. TODD who stated that the-called Hecksher-Ohlin theorem «associates an international opening with an internal unequalization is actually one of the few genuine achievements of economics» (TODD 1998: 15).

3.7 Characteristic 7: Equitable pursuit of developmental and environmental needs of present and future generations

As a world development programme of the UN, sustainable development adopts objectives of fairness, with particular emphasis on the elimination of poverty, based on Principle 3 of the Rio Declaration of 1992. This dimension is fundamental for broad acceptance by socially active groups beyond the scope of nature conservation. It may be actively pursued as the UN does, or considered as a reference regulating environmental management programmes (European Union, businesses). «Intergenerational» equity appears as a novel and original characteristic although there is nothing radically new about policy decisions taking into account future generations. The perpetuation of peoples, the objective of steady or growing prosperity are part of all the ancient and modern traditions (including religious ones). «Intergenerational equity» has been influenced by the magnitude and fast pace of the changes that humankind has experienced and produced. It has been further affected by the real discrepancy between progress and development which led to a greater concern with present political and legal questions of development. Regarding rights of future generations, environmental questions receive greater attention in the definition of sustainable development. Of course, there are still theoretical and practical problems in defending rights for beneficiaries who do not exist at the moment. Moreover, taking into account «future generations» in an apparently unified form should not conceal the considerable environmental and social differences that exist between human groups at the local and regional levels.

3.8 Characteristic 8: Changes in awareness (values, education) and ethics (in the relationship to nature in particular) as prerequisites for and parts of sustainable development

Repeatedly there has been a call for «changes in mentality» towards the environment in the texts that promote sustainable development: «Unless we are able to translate our words into a language that can reach the minds and hearts of people young and old, we shall not be able to undertake the extensive social changes needed to correct the course of development» (Introduction by G. H. BRUNDTLAND, WCED 1987: XIV). This is also supported by texts with a strong ethical component (CLUB OF ROME 1972, 1992; UNION OF CONCERNED SCIENTISTS 1992) and in education and awareness programmes (UNCED 1992).

This characteristic could be interpreted in several ways. On the one hand, the adaptations are necessary in all spheres of society, which explains the implementation of awareness programmes, by contrast, for example, to a legislative change in a field that concerns a specialised profession. Furthermore, in these different spheres, the principles of sustainable development must be implemented in a way that is specific to the sectors and situations. There are, however, more principles recommended than actually implemented. Moreover, the «prescriptions» and methodologies are defined differently at specialised levels.

The new ethic that is called for can also be read in several ways. It is sometimes a matter of encouraging behaviours that seem antinomic with strict personal usefulness (e.g. «it is good to sort one's waste, even if takes time»). For this, the common good is evoked against the individual interest. This common good can refer to the living environment that we share, the well-being of present or future generations, or the welfare of «humanity». If the attempts to reform the economy to «integrate» the environment were successful (but this is an ideal situation), the references to ethics might become less important, since it would be economically advantageous to act ecologically.

3.9 Characteristic 9: Involvement of the private and public sectors at all levels

«Environmental issues are best handled with the participation of all concerned citizens, at the relevant level» (Rio Declaration, Principle 10). «Critical to the effective implementation of the objectives, policies and mechanisms agreed to by Governments in all programme areas of Agenda 21 will be the commitment and genuine involvement of all social groups» (Agenda 21, para.23.1, UNCED 1992). Quotations like these can be found in all the integrated programmes of sustainable development. At the European level, the Vth programme (1992) indicates precisely that a change in strategy is occurring in relation to earlier environmental policies, especially because of the involvement of all

these actors in policy making. As for the LA 21s, the international campaign that supports them (ICLEI 1997) only recognises this title if explicit provision is made for participation.

How can this be interpreted? Reasons to go beyond environmental protection are the weakening role of the public sector compared to the rise of economic actors, NGOs and even «citizens». Public authorities are organising these different forces as a mediator more than as an overriding force. The complexity of the situations, their specialisation, the consumer's increased need and capacity to negotiate are making it possible for arrangements to be established outside traditional regulation. Therefore, there is a proliferation of «voluntary instruments», initiatives and charters. All of this generates a climate favouring more peaceful social relations and partnerships. With respect to the environment, the tradition of public inquiries has generated increasingly developed forms of consultation, analyses and evaluations of regional or town plans, new business sites, public works etc. The professionalisation of environmental NGOs has also contributed to this.

This call for active involvement nonetheless requires clarifications on the possible and necessary role of each protagonist and in what forum they relate to each other. In the last few years, for example, a number of councils devoted to sustainable development have been established worldwide (EARTH COUNCIL 1997), but they represent only forum for official interactions which are in reality multifaceted and decentralised.

4 Conclusions

Sustainable development is a broad topic with many different dimensions and conceptual approaches, persisting difficulties of operationalising, measuring and evaluating «sustainability». Sustainable development is not only an «object», it is an organising argument, a prism of analysis. The same event, for example support for an economic enterprise that recycles waste, may be considered part of a sustainable development programme, or an achievement of environmental policy, or a matter relating to the social economy. Despite the particular view taken, the pursuit of sustainable development has specific effects. It may generate or recompose (GODARD 1997) knowledge, balances of power, and leads to decisions that may or may not be counterproductive with the stated objectives of equity and environmental responsibility.

It is not impossible that environmental problems may be exaggerated in relation to other more vital challenges in some countries. But, be it in the North or the South, the environment has for too long been low on the list of priorities, to make the concern with sustainable development not justified. Sustainable development, however, cannot be achieved according to a single global model.

The participatory dimension of sustainable development has to be emphasised more strongly before projects tailored to specific situations can be successful. Similarly, the social dimension in sustainable development programmes should be elaborated more clearly as a guideline for regulations in the free market economy. This is of course easier said than done, but on the ground progress can only be made through the work of different forces and initiatives.

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Summary: Sustainable Development: Characteristics and Interpretations

This paper characterizes the main elements of «sustainable development» (SD) based on the current literature. On the premise of population growth and human environmental impact as central problems of development policy the multisectoral and multidimensional approach to sustainable development is discussed. According to this,

- Environmental protection has to be an integral part of the development process
- Technology will play a major role in the implementation of SD
- SD may be compatible with the free market economy
- SD seeks «inter-» and «intra-» generational equity
- SD requires changes in awareness and ethic
- Achieving SD means the involvement of private and public sectors at all levels.

It is shown that these characteristics currently are subject to interpretations that go beyond the scope of SD.

Résumé: Développement durable: caractéristiques et interprétations

Ce texte tente de brièvement systématiser, à partir des ouvrages scientifiques, les caractéristiques principales des politiques de développement durable. Partant de la thèse que les problèmes liés à l'extension de la population et la pollution de l'environnement représentent la cause majeure d'une crise actuelle du développement, ce texte discutera une approche multidisciplinaire et multidimensionnelle du développement durable (DD). Il faut donc que :

- la protection de l'environnement fasse partie intégrante des processus de développement
- la technologie joue un rôle majeur dans la mise en œuvre du DD
- le DD soit compatible avec une économie libérale
- le DD recherche une équité «inter-» et «intra-» générationnelle
- des changements dans la prise de conscience et l'éthique soient accomplis
- la réalisation du DD implique la participation de tous les secteurs (et non seulement des pouvoirs publics).

La notion de développement durable est inséparable de sa fonction de référence légitimatrice. Nous tentons de trer que les caractéristiques citées sont sujettes à des interprétations qui dépassent le domaine du DD lui-même.

Zusammenfassung: Nachhaltige Entwicklung: Hauptmerkmale und Interpretationen

Dieser Beitrag systematisiert anhand bestehender wissenschaftlicher Literatur die Hauptmerkmale der «Nachhaltigen Entwicklungspolitik». Ausgehend von Bevölkerungswachstum und Umweltbeeinträchtigung als zentralem Problem der Entwicklungspolitik wird der multisektorale und multidimensionale Zugang zur Nachhaltigen Entwicklung (NE) besprochen. Danach muss:

- Umweltschutz ein integraler Bestandteil des Entwicklungsprozesses sein
- Technologie eine führende Rolle bei der Umsetzung der NE spielen
- NE kompatibel mit der Freien Marktwirtschaft sein
- eine «inter»- und eine «intra»-Rechtlichkeit der verschiedenen Generationen angestrebt werden
- ein Bewusstseinswandel und ein Umdenken in der Ethik stattfinden

- die Umsetzung durch Teilnahme und Einsatz aller Gesellschaftsbereiche (nicht nur der öffentlichen) erfolgen.

Das Konzept der Nachhaltigkeit ist untrennbar mit seiner Funktion als rechtlicher Referenz verbunden. Der Beitrag zeigt, dass die Hauptmerkmale der Nachhaltigen Entwicklungspolitik derzeit einer Bandbreite von Interpretationen unterworfen sind, die aus dem gängigen Verständnis von Nachhaltigkeit herausfallen.

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