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Territorial Equity and Sustainable Development

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ABSTRACT

The sustainable development (SD) issue is mainly focused on questions of intergenerational equity. The study of intragenerational equity is less common. In this article, I am interested in a particular kind of intragenerational equity, territorial equity. As well as exposing the various territorial inequalities, the literature on SD comprehends territorial equity through possible territorial transfers of sustainability. The reality of these transfers and how to measure them are however, very directly dependent on general conceptions of SD. The text examines analyses that may be inferred from these different ideas. It attempts to reveal the respective limits and to propose a synthesis, which incorporates operational objectives.

KEYWORDS

Sustainable development, equity, territory

INTRODUCTION

Institutional literature on sustainable development (SD), especially following the Brundtland report (WCED 1987), often sees SD as the union between intergenerational equity and intragenerational equity. The most general and most consensual definition, that which understands SD as a development 'that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987: 43), clearly reveals this double dimension. If the second part of the definition corresponds to the challenge of intergenerational equity, the first, for its part, refers to intragenerational equity (Langhelle 2000:

300). However, we have to note that questions of intergenerational equity have been assigned a major role within the theoretical literature on SD. In contrast, intragenerational equity is discussed much less often (Stymne and Jackson 2000: 219–20).¹ It is even absent from contributions deriving from neoclassical economic theory (Pezzey and Toman 2002: 167). The intertemporality dimension undoubtedly constitutes the principal originality of SD as far as the development issue is concerned. Nevertheless, the different problems of inequality, both economic and ecological, that have been noted, and the repeated calls by institutions to respond to these, reinforce the importance of a more significant treatment of the issue of intragenerational equity.

Although it is possible to see questions of intragenerational equity from the viewpoint of relations between individuals or between social categories, it is however the territorial approach that constitutes the principal mode of application on this issue. In particular, the major institutional texts (WCED 1987; United Nations 1992) emphasise the extent and the intensification of disparities between North and South, although this consideration does not preclude favouring other approaches, for example concerning regional or local inequalities within the same country.

What do SD theories bring or are likely to bring to the analysis of territorial equity? In fact I prefer to talk about *territorial* equity rather than *spatial* equity.² In general, (for example Thisse 1994), spatial equity is related to equity of localisation in space, for example of collective facilities. It is therefore a question of minimising the maximum distance travelled by users of these facilities or, in accordance with Rawls' difference principle, of minimising the distance for individuals who are the furthest away. Territorial equity, for its part, is more concerned with the question of located geographical inequalities, whatever the field: economic, environmental, or others. It is precisely this question that I should like to consider within the context of this article.

The contribution continues a certain number of studies which deal with (or sometimes just mention) the question of intragenerational equity, considered from a territorial viewpoint (e.g. in this review, Pezzey 1992: 350; Redclift 1993: 8; Munda 1997: 216; and particularly Martinez-Alier 1993). But its originality lies in studying the two following propositions:

- 1) As well as analysing or exposing territorial *inequalities*, SD theories favour an understanding in terms of territorial *transfers* of sustainability. This question will be covered in the first part.
- 2) The territorial equity approach, and more precisely territorial transfers of sustainability, is very directly dependent on the theoretical corpus that underlies the general SD issue, and in particular the now well-known division between ideas of strong sustainability and ideas of weak sustainability (Neumayer 2003). This second proposition will be considered in the second part.

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I will also try to show that neither of these particular interpretations is exempt from criticism, and to propose a synthesis based on previous developments and directed towards possible corrective policies.

TERRITORIAL INEQUALITIES AND TERRITORIAL TRANSFERS OF SUSTAINABILITY

Territorial inequalities and sustainable development

Territories are divided by substantial inequalities, whether this is in the economic, social or environmental field. This is described in the Brundtland report (WCED 1987). Responding to this is one of the objectives of Agenda 21. The Johannesburg summit showed that in the ten years since Rio the situation has scarcely improved. A report preceding this international summit in 2002 stated: 'in most parts of the developing world there has been at best limited progress in reducing poverty' (United Nations 2001: 4). At the beginning of the new millennium, 15 per cent of the global population in high income countries accounted for 56 per cent of total consumption, while 40 per cent of the poorest levels of society, in low income countries, only accounted for 11 per cent (World Bank 2001). It is true that, between 1990 and 1998, the total number of people living below the poverty line fell slightly: from 1.3 billion to 1.2 billion. However, the results vary greatly depending on the continent. In sub-Saharan Africa, the fight against poverty has scarcely progressed, and the number of poor people has risen significantly.³ The inequalities are also ecological: at the end of the 1990s, at least 1.1 billion people still did not have access to clean drinking water and about 2.4 billion had no access to satisfactory sanitation (United Nations 2000). Pollution and risks affect the poorest people in particular. The impact of climate change in terms of drought or a rise in sea level will particularly affect poor people in the South, firstly because they are geographically more exposed and also because they are less well equipped financially to deal with this. The Intergovernmental Panel on Climate Change (IPCC) predicts 150 million eco-refugees by 2050. Emphasising the disparities that result from ecological problems is becoming a recurrent theme in reports by international institutions. Thus, recently, the Millennium Ecosystem Assessment, set up by the Secretary General of the United Nations in 2001, saw the unequal territorial consequences as one of the major problems resulting from attacks on ecosystems: 'the harmful effects of the degradation of ecosystem services ... are being borne disproportionately by the poor, are contributing to growing inequities and disparities across groups of people, and are sometimes the principal factor causing poverty and social conflict' (MA 2005: 2). According to Ulrich Beck's important thesis, risk distribution has been added to the issue of the distribution of wealth, with the former even tending to dominate in modern society (Beck 1986).

The 'Brundtlandian' approach translated to the territorial level

Ideas on SD are similar to other constructions dealing with territorial disparities, particularly from the environmental viewpoint: political ecology (O'Connor 1988; Martinez-Alier 2002) and work on environmental justice (Bullard 1990), for example. However, the SD issue contains quite a specific method of analysis that can be found in a certain number of contributions. In a way, this analysis takes as a starting point an adaptation of the Brundtlandian definition of SD to territorial equity. Indeed, one could say that in order to respect territorial equity, development should respond to the needs of the inhabitants of a given territory without compromising the ability of the inhabitants of other territories to respond to their needs. Several contributions can be presented to justify this particular interpretation.

A first contribution, one that is already old, is that put forward by Pearce, Markandya and Barbier (1989). They explain the idea of 'importing sustainability' and its counterpart 'exporting sustainability' (pp. 45–47). Even if, in a territory, the sustainable character of development is confirmed, it is quite possible that the development noted occurs to the detriment of external territories. The possibility considered in the work is that of importing natural resources (for example tropical hardwood), changing the ecological base of the country of origin. Another situation is provided by possible pollution transfers (export of waste, pollution of trans-border rivers etc.). In these two cases, the beneficiary country develops its sustainability by reducing external sustainability. According to the authors, importing natural resources or exporting externalities are similar to 'importing sustainability' or 'exporting non-sustainability'.

A second contribution is that of Nijkamp, who bases spatial sustainability on the following dual rule (see e.g. Nijkamp et al. 1992: 41):

1. For a given area, development should ensure an acceptable level of welfare, which can be sustained in the future.
2. This development should not be in conflict with sustainable development at a supraregional level.

The analysis here does not so much emphasise the territories that are external to the reference territory as the 'incorporating' territory: that which incorporates the reference territory. Development that satisfies the needs of the reference territory without compromising the ability of actors in the incorporating territory or territories to satisfy theirs is therefore sustainable. This rule holds at all levels: local against regional, to continental against global. Consequently, what prevails *in fine* is the sustainability of the global system, in other words the Earth in its entirety. The opposite is not necessarily true and, consequently, the sustainability of the incorporating territory will not have as a necessary corollary the sustainability of the incorporated territory. For example, a region will reserve part of its territory for waste disposal: the installation of an incinerator and/or a landfill

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site. This is the idea of 'territorial sacrifices' (Nijkamp et al. 1991: 160, Nijkamp et al. 1992: 41) which poses the question of the legitimacy of non-sustainability of a given territory compared to the SD of a larger territory.

A third important contribution is that which arose around the idea of 'ecological debt'. This concept was born at the beginning of the 1990s, out of reflections by the Chilean Instituto de Ecología Política, but which have above all been developed by Joan Martínez-Alier (1993, 2002). It currently enjoys particular support from NGOs (e.g. *Friends of the Earth*). Inspired by the Marxian concept of unequal exchange, Martínez-Alier defends the idea that, in the context of international markets, the South would be subject to 'an ecologically unequal exchange' (Martínez-Alier 2002: 214). This is because the price of goods in the South does not in general incorporate the cost of environmental damage, linked to production in these countries. An 'ecological debt' therefore arises on behalf of the countries of the North towards those of the South which, from the international equity point of view, should be taken into account and should act as a counterbalance to the monetary debt of the poorest countries. This ecological debt also reveals a transfer of sustainability, in this case from the South to the North.

The issue of SD therefore leads us from the question of *inequalities* to that of territorial *transfers*. These transfers are transfers of natural resources or more conceptually, transfers of sustainability. Territories are regarded as spatial groups with inhabitants, characterised by needs to be satisfied and benefiting from available resources. It is possible, however, that the resources in question serve to meet the needs of inhabitants in other territories. Hence a transfer of sustainability. This approach is therefore particularly mindful of a possible interdependence in the levels of well-being depending on the different territories, and is intended to challenge situations of inequalities which translate negative correlations between well-being. In short, we could say that 'Brundtlandian inequalities' are diametrically opposite to 'Rawlsian inequalities', which, according to the principle of difference, are supposed to reveal positive correlations between well-being.

That an inequality also expresses a divergence is not a new idea. It is present in a number of works by development economists, such as Perroux or Myrdal. The distinctive feature of the SD issue is to provide new methods of assessment for territorial transfers.

AN INTERPRETATION DEPENDENT ON THE PARADIGMS OF SUSTAINABILITY

What are these transfers in reality? How large are they? How do we measure them? There are no easy answers to these questions. In this article, I put forward the idea that the way of responding to this can be very directly linked to different theoretical constructions that underlie the SD issue. So, a significant axis

distinguishes ideas of SD that are 'weak' (indeed very weak), and ideas that are 'strong' (indeed very strong) (Neumayer 2003). An idea of sustainability is all the weaker (or stronger) if it recognises (does not recognise) the possibilities of substitutability between different goods aimed at achieving well-being and/or different forms of capital contributing towards economic growth. The neoclassical movement concerns the 'weak' end of sustainability; ecological economics lies at the 'strong' end. Its reservations about the substitutability of goods and/or factors are linked to the existence of environmental specificities, which are absolutely irreplaceable.

In particular, this is translated by the idea of 'critical natural capital', which applies, for example, to climate regulations (Ekins 2003). These bodies of different analyses clearly influence the way of understanding intergenerational equity. I will not consider this here. Instead, I will study the implications of the distinction between weak sustainability/strong sustainability for territorial equity and the transfer of sustainability.

Territorial equity and weak sustainability

While there is a rich neoclassical literature on the spatial economy, there is no work issuing from this theory that is explicitly focused on the territorial aspects of SD. The analysis concentrates exclusively on the issue of intergenerational equity (Pezzey and Toman 2002). Having said this, it is possible to attribute to the spatial level the characteristics of weak sustainability, as they have just been outlined.

Considering the principle of the substitutability of goods, if a territory is subject to the effects of external pollution, the equity will nevertheless be satisfactory, on condition that compensation, particularly monetary compensation, covers the damage. It is the same if it concerns an element of natural capital transferred from one territory to another, for the purposes of economic activity. Territorial equity is not contravened if a flow of money exists in the opposite direction, assuming that in the exporting territory the money received is used for investment. Ultimately, if transfers (of natural resources and externalities) are correctly compensated by monetary means, there will be no transfer of sustainability and no problem in terms of territorial equity.

The work of Martinez-Alier (1993, 2002) represents a remarkable critique of this kind of approach. This is a double critique: it deals with what the monetary compensation *is* in reality, but also, what it *could* be. In the current situation, goods sold by the South to the North are done so according to ecologically incorrect prices. The exchange is 'ecologically unequal'. By this expression, the author refers to '... the fact of exporting products from poor regions and countries, at prices which do not take into account the local externalities caused by these exports or the exhaustion of natural resources, in exchange for goods and services from richer regions' (Martinez-Alier 2002: 214). Another expression could be 'ecological dumping', which translates a situation of lax, indeed

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non-existent, standards, in the environmental and social fields, improving the competitiveness of products for export or favouring the acceptance of foreign investments. Martinez-Alier acknowledges the idea of ecological dumping whilst emphasising the fact that this dumping, in contrast for example to that of agricultural products from the North, is in some way unintentional, linked to the state of domination that the South suffers from.

Martinez-Alier's critique is also aimed at what the monetary compensation *could* be, in other words what the export price of goods from the South that include external costs could be. The monetary valuation of externalities is therefore fundamentally in question. Using the different methods applied in this area (contingent valuation, indirect valuation method, hedonic price method etc.), monetary valuation tends to be based, more or less directly, on the value of the income of the population concerned. This may seem legitimate: for example, if an economist seeks to quantify what an individual will agree to pay to improve environmental quality, he should expect that the value expressed reflects, to a certain extent, the individual's budgetary constraint, with a risk, conversely, of a certain inconsistency in the preferences expressed. When the values of the income are relatively homogenous from a spatial point of view, this approach may appear acceptable, unless we completely reject the principle of environmental monetarisation. In contrast, when the territories have very unequal income structures, the results of the valuations will be extremely sensitive to these inequalities. This is what Martinez-Alier calls, not without irony, the principle according to which 'the poor sell cheap', also called 'the Lawrence Summers' principle' (Martinez-Alier 1995: 514).⁴ I should perhaps recall here that Summers drew attention to himself at the beginning of the 1990s, when he was Vice-President and Chief Economist at the World Bank, by saying that there was an economic interest in relocating polluting industries to the South, in view of its relative 'under-pollution' in comparison with the North.⁵ One of the arguments put forward by Summers was the following:

The measurement of the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality. From this point of view a given amount of health impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. (Summers 1991, quoted by Martinez-Alier 1995: 515)

The economic reasoning appears incontrovertible. With a spatially heterogeneous structure for the cost of damage, seeking a minimal total cost will lead to polluting where the costs are lowest. However, the strongest criticism of Summers was not for his consistency, but for the underlying ethical principles to such a logic. For example, José Lutzenberger, at the time the Brazilian Secretary for the Environment, responded:

Your reasoning is perfectly logical but totally insane. ... Your thoughts [provide] a concrete example of the unbelievable alienation, reductionist thinking, social

ruthlessness and the arrogant ignorance of many conventional 'economists' concerning the nature of the world we live in. (Lutzenberger, in 'Greenpeace Waste Trade Update', no. 5.1, 1992)

Therefore we should rather question the principle itself of the monetary valuation of the environment and the absence of universally valid environmental and social standards – standards such that if an industry is expelled from a territory for environmental or social reasons, it cannot be accepted in another territory for the same reasons.

It cannot be doubted that a better consideration of external costs in the price of goods would be an improvement compared to a situation of unequal ecological exchange. This is in line with one of the key principles of fair trade, as expressed, for example, by the Fair Trade Federation (FTF 2004: 4). However this internalisation, in the Pigovian meaning of the word, does not entirely correspond to the possible, much more ambitious, desire for environmental and social standards that all people could benefit from, in different countries. The critique of environmental monetarisation now leads us to turn to 'stronger' conceptions of SD.

Territorial equity and strong sustainability

While transfers of sustainability may not be apparent in the context of a weak sustainability approach, they will come into full play when the perspective of strong sustainability is used. Money can no longer compensate for an 'environmental flow' (natural resource or quality of the environment). Only the same kind of resource can ensure compensation: for example, an act of reforestation after the removal of a forest. Failing that, the transfer is complete.

But how, in these conditions, can we measure the reality of this transfer and its extent? Since the monetary standard has been rejected, other measures have been put forward.

A first approach is the eco-energetic analysis, by the Odum brothers in particular and by their successors. Energy consumption, or for example in a more sophisticated form, emergent flows – which take into account integrated solar energy – represent attempts to make a homogenous assessment of the flows. From a territorial viewpoint, an interesting illustration of this approach is that proposed by Pillet (1993: 205) which shows that Switzerland, at the beginning of the 1990s, imported 3.5 times more integrated solar energy than it exported.

Nevertheless, this kind of analysis invites criticism. As Hornborg (1998) explains, ultimately, it could remove all *raison d'être* from international trade as there are necessarily transfers of energy between countries that export raw materials and the others. According to this author, an approach in terms of exergy, that is one that takes into account the *quality* of energy in the thermodynamic sense, would be more appropriate, knowing that 'market prices are the specific mechanism by which world system centres extract exergy from, and

export entropy to, their peripheries' (Hornborg 1998: 131–132). This being so, as the author has admitted, the operational consequences of this approach are problematic.⁶

However, seeking a homogenous unit of measurement, the authors of strong sustainability have mainly turned towards the idea of an ecological footprint. This approach dates from the 1990s and in recent years has spread spectacularly. It is characterised by measuring the use of space linked to different uses of natural resources on condition of sustainability (Wackernagel and Rees 1996, WWF 2004). More precisely consumption (food consumption, housing, transport etc.) in a given territory, is expressed according to the use of corresponding spaces (built land, arable land, 'energetic land',⁷ sea space etc.) according to observable productivity. An aggregation of the results obtained allows a unified indicator to emerge, which is supposed to account for the ecological impact of consumption.

This indicator is likely to reveal ecological transfers between territories, when it is compared with available ecological space, called biocapacity. Thus, using 2001 data, the World Wildlife Fund (WWF 2004) calculated that France has an ecological footprint of 5.8 ha per inhabitant, while the available biocapacity itself is valued at 3.1 ha/inhabitant, or an 'ecological deficit' of 2.8 ha/inhabitant. As for the USA, an ecological deficit of 4.7 ha/inhabitant emerged, an indication that their needs in terms of ecological space largely exceed their own resources. In contrast, Australia benefits from a large surplus of 11.5 ha/inhabitant, obviously because of its low population density. At the global level, the WWF calculated a deficit of 0.4 ha/inhabitant, confirming the non-sustainable nature of human activities on Earth.

An interesting extension of this kind of analysis in terms of ecological deficit is that put forward by Torras (2003). The idea consists of seeing in the ecological deficit an expression of the ecological debt of the North vis-à-vis the South, and then comparing this with the monetary debt of the poorest countries. On the basis of a certain number of methodological conventions, in particular relating to the monetary value of services provided by the environment, the author suggests a pro rata reduction in the debt of the poorest countries compared to the ecological debt that the richest countries enjoy.

The ecological footprint approach has provoked a certain number of criticisms (van den Bergh and Verbruggen 1999, Neumayer 2003: 175–177), which themselves have resulted in improvements to the approach. There are several difficulties concerning the idea of an ecological deficit, seen as a measure of sustainability transfers.

Firstly, as Anderson and Lindroth (2001) observe, the ecological deficit does not measure environmental flows between territories, but takes account of the intensity of national consumption, related to the 'bio-available' capacities of the country. In other words, we could be faced with a net resource importing country

which, nevertheless, is in a position of ecological surplus or, conversely, a net resource exporting country which reveals an ecological deficit.

More radically, the idea of an ecological deficit is questionable in that it is a negative apriorism towards small territories with a high demographic density, with at the extreme the example of the town (van den Bergh and Verbruggen 1999: 67). In fact, as regards environmental resource requirements, high density territories necessarily rely, in a significant way, on external territories to ensure their desired level of well-being: their ecological deficit is therefore high, but in a tautological way. Two reasons at least allow one to soften the possible criticism of inequity which could describe the situation. Firstly, it is quite possible that individual behaviour in these territories is relatively favourable to SD, whether this concerns, for example, the type of consumption, the limitation or recovery of waste or resource conservation. In particular – and this is the second reason – it is probable that a way of distributing human resources which tends to favour concentration – and again the extreme example of the town can be given – influences behaviour and, in particular, leads to a *per capita* reduction in a certain number of externalities: a very good illustration is provided by the famous graph of Newman and Kenworthy (1989: 48), showing that individual fuel consumption declines significantly when urban density increases.

Of course, the ecological deficit can appear as a good indicator of sustainability transfers, as it links consumption and available resources. However, in the territorial equity context, it would be paradoxical to regard Bangladesh, for example, as a ‘winner’ because it has an ecological deficit of 0.3 ha/inhabitant, and Australia as a loser because of its surplus of 11.5 ha/inhabitant, while the individual footprint in the first country is 13 times lower than in the second.

In order to go beyond this paradox, we should reclarify the idea of a transfer of sustainability. This is what I propose to do now.

An attempt at a synthesis

Beyond the different theoretical corpus that underlie SD, I will attempt a synthesis with operational aims. An approach to territorial equity that is based on the idea of transfers of sustainability assumes territories characterised by consumption levels that respond to needs, and available resources, particularly environmental resources. I will consider these two variables in succession.

Consumption

Territorial differences in terms of consumption are likely to represent a problem for an objective of equity. Above all, consumption, in a given territory, is problematic if it hinders access to sustainability by other territories, and *a fortiori* the entire Earth. This can be the case if the level of consumption leads one to remove significant external resources, which other territories will lack. A possible operational proposition would be to encourage a reduction in the highest consumption and/or the share of natural resources linked to consumption in the

most favoured territories (energy conservation, dematerialisation, for example). Two risks of perverse effects should not, however, be disregarded. On the one hand, a fall in demand for environmental resources for a given territory will cause a decline in the import of currency which could harm the well-being of the territory in question. A reduction in consumption of resources should, therefore, be accompanied by compensatory measures: international financial aid and (above all) help to reorientate internal production in a sustainable context. On the other hand, a territory's decision to reduce its external demand for environmental resources could lead to an increase in demand by other territories, if the global offer is constant and if, consequently, the price of a resource tends to decline. In this context, the favourable ecological consequences would be cancelled.

In both these cases, international institutional mechanisms appear to be necessary to counter possible perverse effects. Moreover, it should be noted that the unequal vulnerability of territories faced by risks generates particular 'needs', which, with the objective of equity, require international aid, starting with the most vulnerable (Paavola and Adger 2006).

Natural resources

We seem to be able to say *a priori* that energy and material flows between territories are essential and that consequently it is not possible to do without international trade. In fact, the legitimacy of this situation is inversely proportional to the territories' recognition of their responsibility faced by the size of, and growth in, their populations. If, as in certain work on strong sustainability, a certain Malthusianism is assumed (see e.g. Daly and Cobb 1989, chapter 12 *Population*), the economic trend will tend towards the requirement for territories to be self-sufficient, with the population having to adapt to available resources and not rely on the outside world (Daly and Cobb 1989, chapter 11 *Free Trade versus Community*). To a certain extent, the criterion of ecological deficit translates such an autarkic idea, with the paradox previously underlined. This economic trend is also not without negative environmental consequences if, for example, the search for self-sufficiency is accompanied by the use of more polluting energy sources (lignite) or requires irrigation in the agricultural field.

However, whatever the legitimacy of the transfers of energy and materials between territories, a territorial equity perspective will attempt to prioritise the consideration of compensation for transfers. Thanks to the contribution of Martinez-Alier (2002), we have seen that this compensation is currently unreliable, taking into account the international *rappports de force*. It even appears difficult to determine what could be fair compensation, given the dependence of a valuation of environmental and social externalities on income levels. It is possible, however, to indirectly estimate the extent of effective compensation, in two ways: by considering an evolution in prices relative to the goods of different countries (terms of trade) and/or by considering the degree of ambition of environmental and social standards, which vary depending on the country.

Beyond the valuation aspects, this question of defining standards seems essential from a territorial equity point of view, and this is a point that I should like to emphasise. In terms of territorial equity, a minimal requirement would be that rejection of a polluting activity in a territory does not lead to it establishing itself in another territory whose standards, more lax, would *a priori* make such a relocation possible. This is why the suggestion of Summers should be rejected. A far more ambitious objective would be to move, towards a generalised improvement in standards. This improvement would lead to two kinds of advantage, essential for SD. On the one hand, it would favour the economic and social situation of producers in territories that are currently the most disadvantaged, because of fairer selling prices. On the other hand, it would help to conserve the environment, as a result of the direct action of standards in the territory involved, but also because it tends to reduce externalities linked to the transport of goods between territories, since a higher or lower share of flows will lose their economic justification, owing to an increase in prices.

However, the 'improvement' in standards, as I mean it here, should above all be understood as 'more relevant from an SD viewpoint'. Consequently, the standard to be generalised can, for example, correspond to an average level of greenhouse gas emissions, assessed as appropriate from a climate change point of view or, from the ecological footprint perspective, to the biocapacity per inhabitant at the global level (and not defined nationally). With this kind of reference, it follows that the levels of consumption and perhaps of well-being are likely to *fall*, particularly in the North. But these references also allow us to go beyond the paradox, seen above, of a 'Bangladesh that wins'. In fact, if we consider the difference between the ecological footprint and the biocapacity per inhabitant *at the global level*, country classification and the valuation of equity are significantly modified (Zuindeau, 2006): Bangladesh would no longer appear to profit from the others, and Australia would not be a victim.

However, the entire discussion assumes that the following contradiction is resolved. While the reference to territory appears to justify a communitarian definition of standards, on the contrary, the idea of a generalised improvement in standards assumes a cosmopolitan view of this issue (see Paavola and Lowe 2005, in particular the chapter by Robin Attfield). In reality, it is not a question of deciding in favour of one or the other approach, but to see under which conditions a reconciliation is possible. To be specific, such a reconciliation requires concerted processes between sovereign territories, allowing one to move, completely freely, from standards specified nationally to standards defined over broader areas. We therefore see that the search for territorial equity, in a SD perspective, demands democratic procedures. In other words, the search for distributive justice should also satisfy the procedural justice perspective (Paavola and Adger 2006).

CONCLUSION

The principle of intragenerational equity inherent to the issue of SD invites a particular interest in the challenge of territorial equity. The persistence of economic inequalities, the absolute impoverishment of numerous territories, the unequal growth in vulnerability in the face of environmental risks, in time strengthens this requirement. I have tried to show that as well as a general analysis and an exposure of inequalities, work relating to SD is characterised by quite a specific approach in terms of territorial transfers of sustainability. From the viewpoint of SD, there is a problem of territorial inequity when the territories (towns, regions, countries) achieve or maintain their level of economic development to the detriment of other territories. Consequently, an essential objective of SD is to fight against these territorial transfers of sustainability.

Evaluating these transfers poses serious methodological difficulties. In a context of weak sustainability, monetary valuation risks under-estimating the scale of these transfers because it depends, to a certain extent, on the level of income and consequently attributes lower values where incomes are lower (Martinez-Alier 2002). In a context of strong sustainability, the evaluation (energetic or via the ecological footprint⁸) risks being based on a negative prejudice against densely populated territories, or poses practical problems in the case of Hornborg's exergetic measure (1998).

The solution is probably to abandon an overall measure and to be satisfied with partial indicators. It would then be a question of establishing a 'dashboard' with indicators such as:

- general evolution in the terms of trade;
- imports and exports of natural resources and possible compensation (physical, as in the case of reforestation, or monetary);
- transfers of externalities (toxic waste) or of the sources of externalities (polluting industries); and finally,
- the variable spatial consequences of global risks.

The establishment and analysis of such indicators could help to formulate policies that are likely to lead towards better territorial equity. From this point of view, I have emphasised the need to strengthen environmental and social standards at the international level, aware that another article would be required to go into detail on this.

One last point: whatever its importance within the paradigm of SD, territorial equity is not a perfect equivalent to intergenerational equity at the spatial level. Even if both acknowledge the Brundtlandian definition of sustainable development by translating the general form on both space and time, there is still not perfect isomorphism. Each territory is a part of the whole, while each generation represents, in a recurring manner, the whole itself. This is the es-

sential difference which, with regard to a necessary prioritisation of principles, will make the intergenerational prevail over the intragenerational, as the global prevails over the territorial.

NOTES

I should like to thank the two referees from *Environment Values* for their comments, which enabled me to clarify certain textual points. The thesis that is outlined and its possible limits remain my sole responsibility.

¹ Moreover, this preeminence of the intergenerational dimension, within the SD issue, only continues an older movement in the broader domain of environmental philosophy and ethics, placing the emphasis on intergenerational issues (e.g. McLean and Brown 1983) and to a certain extent leaving intragenerational issues overshadowed (apart from the question of the relationship between humanity and non-humans).

² Furthermore, I will generally employ the idea of equity rather than of justice. One principal reason is the fact that the literature on SD more often puts forward expressions of intra- or intergenerational equity, rather than intra- or intergenerational justice (see for example the disproportionate instances of expressions on the internet). Secondly, and more fundamentally, I am interested in questions on the distribution of environmental risks and economic costs and advantages. Indeed, this type of question concerns the branch of justice that is called 'distributive justice' and which also tends to be identified, in a number of studies, with the concept of equity (e.g. Young 1994).

³ Source : www.worldbank.org/poverty/data/trends/index.htm

⁴ A similar criticism was made by James K. Boyce (1994), especially pp. 173ff.

⁵ A concern for impartiality requires me to state that Summers denied having the intentions that were ascribed to him, claiming to offer, on the contrary, a 'sardonic counterpoint, an effort to sharpen the analysis'.

⁶ Indeed, Hornborg writes: 'It would be nonsensical to offer an "exergy theory of value", since it would systematically contradict the valuations which people actually make' (1998: 134).

⁷ Although several definitions are possible, 'energetic land' generally corresponds to the land area required to absorb the amount of CO₂ released by burning fossil fuels (Wackernagel and Rees 1996). It is essentially by considering this energetic land that one is able to express the assumed condition of sustainability.

⁸ I emphasise the fact that, concerning the ecological footprint, the problem does not come from calculating the footprint itself, but from the particular indicator that is the ecological deficit.

REFERENCES

- Andersson, J.O. and M. Lindroth. 2001. 'Ecologically unsustainable trade', *Ecological Economics*, **37**(1): 113–122.
- Arler, F. 2001. 'Global partnership, climate change and complex equality', *Environmental Values*, **10**(3): 301–329.

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- Attfeld, R. 2005. 'Environmental value, nationalism, global citizenship and the common heritage of humanity', in J. Paavola and I. Lowe (eds), *Environmental Values in a Globalising World: Nature, Justice and Governance* (London: Routledge), pp. 38–50.
- Beck, U. 1986. *Risk Society: Towards a New Modernity*, English translation 1992. London: Sage Publications.
- Boyce, J.K. 1994. 'Inequality as a cause of environmental degradation', *Ecological Economics*, **11**(3): 169–178.
- Bullard, R. 1990. *Dumping in Dixie: Race, Class and Environmental Quality*. Boulder, CO: Westview.
- Daly, H.E. and J.B. Cobb, Jr. 1989. *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future*, 2nd edition 1994. Boston, Massachusetts: Beacon Press.
- Ekins, P. 2003. 'Identifying critical natural capital: conclusions about critical natural capital', *Ecological Economics*, **44**(2–3): 277–292.
- FTF (Fair Trade Federation) 2004. *Report on Fair Trade Trends*. <http://www.fairtrade-federation.com/>
- Hornborg, A. 1998. 'Towards an ecological theory of unequal exchange: articulating world system theory and ecological economics', *Ecological Economics*, **25**(1): 127–136.
- Langhelle, O. 2000. 'Sustainable development and social justice: expanding the rawlsian framework of global justice', *Environmental Values*, **9**(3): 295–323.
- MA (Millennium Ecosystem Assessment) 2005. *Ecosystems and Human Well-being: Synthesis*. Washington, DC: Island Press.
- Martinez-Alier, J. 1993. 'Distributional obstacles to international environmental policy: the failures at Rio and prospects after Rio', *Environmental Values*, **2**(2): 97–124.
- Martinez-Alier, J. 1995. 'Distributional issues in ecological economics', *Review of Social Economy*, **53**(4): 511–528.
- Martinez-Alier, J. 2002. *The Environmentalism of the Poor*. Cheltenham: Edward Elgar.
- McLean, D. and P.G. Brown, eds. 1983. *Energy and the Future*. Totowa, NJ: Rowman and Littlefield.
- Munda, G. 1997. 'Environmental economics, ecological economics, and the concept of sustainable development', *Environmental Values*, **6**(2): 213–233.
- Neumayer, E. 2003. *Weak versus Strong Sustainability: Exploring the Limits of Two Opposing Paradigms*, second edition. Cheltenham: Edward Elgar.
- Newman, P.W.G. and J.R. Kenworthy. 1989. *Cities and Automobile Dependence. An International Sourcebook*. Aldershot: Gower Technical.
- Nijkamp, P., J. van den Bergh and F. Soeteman. 1991. 'Regional sustainable development and natural resource use', Proceedings of the World Bank Annual Conference on Development Economics, 1990, 153–188.
- Nijkamp, P., P. Lasschuit and F. Soeteman. 1992. 'Sustainable development in a regional system', in M.J. Breheny (ed.), *Sustainable Development and Urban Form* (London: Pion Limited), pp. 39–66.
- O'Connor, J. 1988. 'Capitalism, nature, socialism: a theoretical introduction', *Capitalism, Nature, Socialism*, **1**(1): 11–38.

- Paavola, J. and W.N. Adger. 2006. 'Fair adaptation to climate change', *Ecological Economics*, **56**(4): 594–609.
- Paavola, J. and I. Lowe, eds. 2005. *Environmental Values in a Globalising World: Nature, Justice and Governance*. London: Routledge.
- Pearce, D., A. Markandya and E.B. Barbier. 1989. *Blueprint for a Green Economy*, 1992 edition. London: Earthscan Publication Limited.
- Pezzey, J. 1992. 'Sustainability: an interdisciplinary guide', *Environmental Values*, **1**(4): 321–362.
- Pezzey, J.C.V. and M.A. Toman. 2002. 'Progress and problems in the economics of sustainability', in T. Tietenberg and H. Folmer (eds), *The International Yearbook of Environmental and Resources Economics 2002/2003* (Cheltenham: Edward Elgar).
- Pillet, G. 1993. *Économie écologique*. Genève: Georg éditeur.
- Redclift, M. 1993. 'Sustainable development: need, values, rights', *Environmental Values*, **2**(1): 3–20.
- Stymne, S. and T. Jackson. 2000. 'Intra-generational equity and sustainable welfare: a time series analysis for the UK and Sweden', *Ecological Economics*, **33**(2): 219–236.
- Summers, L. 1991. Internal note by the World Bank, dated 12 December, taken up under the headline 'Let them eat pollution', by *The Economist*, 8 February 1992.
- Thisse, J.-F. 1994. 'L'équité spatiale', in J.-P. Auray, A. Bailly, P.-H. Derycke and J.-M. Huriot (eds), *Encyclopédie d'économie spatiale* (Paris: Economica), pp. 225–231.
- Torras, M. 2003. 'An ecological footprint approach to external debt relief', *World Development*, **31**(12): 2161–2171.
- United Nations 1992. *Agenda 21: The United Nation's Programme of Action from Rio*. New York: United Nations.
- United Nations 2000. *Progress Made in Providing Safe Water Supply and Sanitation for All During the 1990s*. E/CN.17/2000/13.
- United Nations 2001. *Implementing Agenda 21*. Commission on Sustainable Development acting as the preparatory committee for the World Summit on Sustainable Development. E/CN.17/2002/PC.2/7.
- van den Bergh, J.C.J.M. and H. Verbruggen. 1999. 'Spatial sustainability, trade and indicators: an evaluation of the "ecological footprint"', *Ecological Economics*, **29**(1): 61–72.
- Wackernagel, M. and W. Rees. 1996. *Our Ecological Footprint: Reducing Human Impact on the Earth*. Philadelphia: New Society Publishers.
- WCED (World Commission on Environment and Development) 1987. *Our Common Future*. Oxford: Oxford University Press.
- World Bank 2001. *World Development Indicators*. Washington, D.C.: World Bank..
- World Wildlife Fund (WWF) 2004. *Living Planet Report*. <http://www.panda.org/downloads/general/lpr2004.pdf>
- Young, H.P. 1994. *Equity: In Theory and Practice*. Princeton: Princeton University Press.
- Zuindeau, B. 2006. 'Spatial approach to sustainable development: challenges of equity and efficacy', *Regional Studies*, **40**(5): 459–470.