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Publisher: Routledge

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Journal of Human Development and Capabilities: A Multi-Disciplinary Journal for People-Centered Development

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/cjhd20>

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Version of record first published: 28 Feb 2013.

To cite this article: Amartya Sen (2013): The Ends and Means of Sustainability, Journal of Human Development and Capabilities: A Multi-Disciplinary Journal for People-Centered Development, 14:1, 6-20

To link to this article: <http://dx.doi.org/10.1080/19452829.2012.747492>

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*The Ends and Means of Sustainability**

AMARTYA SEN

Amartya Sen is Thomas W. Lamont University Professor at Harvard University, Cambridge, MA

Abstract The idea of ‘sustainability’ received serious attention in the so-called Brundtland Commission Report that has many attractive features. In particular, it highlighted the importance of intergenerational justice while maintaining a concern for the poor of each generation and shifted the focus away from resources to human beings. I argue that this way of understanding sustainability, while a great improvement, is still incomplete. There are important grounds for favouring a freedom-oriented view, focusing on crucial freedoms that people have reason to value. Human freedoms include the fulfilment of needs, but also the liberty to define and pursue our own goals, objectives and commitments, no matter how they link with our own particular needs. Human beings are reflective creatures and are able to reason about and decide what they would like to happen, rather than being compellingly led by their own needs—biological or social. A fuller concept of sustainability has to aim at sustaining human freedoms, rather than only at our ability to fulfil our felt needs. Some empirical examples are given to illustrate the distinctive nature and the reasoned importance of seeing sustainability in terms of sustaining human freedoms and capabilities.

Key words: Capabilities, Environment, Sustainability, Freedoms, Sustainable consumption, Agency, Participation, Development

Introduction

I do not know many endearing stories about General Franco, the Spanish dictator; I am, in fact, rather astonished that I know even one. That particular anecdote concerns the time when General Franco was on his death-bed, and his fascist admirers gathered around the building, singing with tearful eyes: ‘Adios, adios, our leader!’ The General felt confused by this, sat up on his bed, and asked his doctor: ‘Where are they going?’ In asking about the sustainability of the world in which we live, we come close to Franco’s disorientation. It is not so much that humanity is trying to sustain the natural world, but rather that humanity is trying to sustain itself. It is us that will have to ‘go’ unless we can put the world around us in reasonable order. The precariousness of nature is *our* peril, *our* fragility.

*This is the text of the Keynote Address at the International Conference on ‘Transition to Sustainability’ (of the Inter Academy Panel on International Issues) in Tokyo, 15 May 2000.

There is, however, also another side of this relationship. The quandary of unsustainability may be our predicament, but the task of solving it is ours as well. The nature of the problem, its fuller appreciation and the ways and means of solving it all belong to us—humanity as a whole. If there is a subject on which collaboration and non-divisive commitments are needed, this surely is it. But in order to make this possible and effective, we need a vision of mankind not as patients whose interests have to be looked after, but as agents who can do effective things—both individually and jointly.¹

Seen in this perspective, there is an important need to take the discussion on sustainability beyond its traditional and confined limits. It is right that we should explore and investigate the problems that arise from the conflict between the needs of people today and those of the future generations (as the Brundtland Commission Report has so forcefully analysed; WCED, 1987). It is also apt that there must be greater understanding of the environmental precariousness arising from the consumption habits around the world, especially of the affluent (as the report of the Royal Society, *Towards Sustainable Consumption: A European Perspective*, has illuminatingly brought out; Heap and Kent 2000). These are important issues to be discussed, but we also have to go beyond the role of human beings specifically as ‘consumers’ or as ‘people with needs’, and consider, more broadly, their general role as agents of change who can—given the opportunity—think, assess, evaluate, resolve, inspire, agitate, and, through these means, reshape the world.

Even the scientific dialogues, for which we have gathered here, have to be seen as the constructive basis of broad public discussion and general involvement of the population at large. The challenges that we face in so many different fields—from population growth to the explosion of material consumption and proliferation of wastage—call for something much more than technically cunning recommendations. Scientific analysis, which is crucially important as a first step (I shall not shy away from trying to present some myself), should also lead the way to much broader exchanges, deliberations and informed agitations. The complementarity between scientific scrutiny and public involvement is one of the central themes of this lecture.

Vulnerability and adversity

The issue of sustainability is not, of course, new. The security of our lives has always depended, among other things, on the strength and resilience of the natural world that we inhabit. However, throughout history people have tended to take the robustness of nature for granted. The frailty of each individual life (including its ultimate cessation) has, of course, been accepted, but the so-called ‘human predicament’—much discussed in different forms in different cultures in the world—was seen almost exclusively as a plight of the individual, and was frequently contrasted with the durability of mankind as a whole. Even Alfred Tennyson’s great ‘elegy’, grumbling a little about the partiality of nature, took the form of contrasting the infirmity of individual life with the security that nature provides for our group future:

So careful of the type she seems,
So careless of the single life.²

The belief in overall invulnerability was well captured by Horace. 'Though you drive Nature out with a pitchfork', Horace had assured us, 'she will still find her way back' (*Epistles*, Book 1, epistle X, l. 24). Nature, however, seems to have started calling our bluff, and seems more and more inclined to leave us, in recent times, to the growing recognition that the environment in which we live is not only delicate, but it also makes human lives—and indeed the lives of other species—deeply precarious. It is now manifestly clear how easily we can deplete the exhaustible resources and drive many species to extinction, how rapidly we can warm up the globe or decimate the ozone layer, with what ease we can foul-up our rivers and mess up the air we breathe, without even pausing to think.

Needs-fulfilment and sustainability: the Brundtland Report

The idea of 'sustainability' received serious attention in the so-called Brundtland Commission Report (WCED, 1987). The Report defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987 ch.2, p. 1). Brundtland's way of seeing the ends of sustainability has many attractive features. As it happens, I will presently argue that this way of understanding the problem—illuminating as it is—is still incomplete. We have to see human beings as agents who can think and act, not just as patients who have needs that require catering. And yet it is quite important to recognize the great merits of Brundtland's perspective and the help it still provides to any plausible extension or modification that we may want to propose now.³ Our debt to Gro Brundtland's imaginative and visionary leadership is immense even if we are to move a little away (as I hope we would) from the precise focus of the 1987 Report.

First, the Brundtland Report presented and defended the crucial understanding that sustainability includes an obligation to future generations. Thus, the concept of sustainable development must necessarily include consideration of inter-generational justice.

Second, the Brundtland Report combined consideration of inter-generational justice with a concern for the poor in each generation, and thereby gave the entire discourse an ethical force that it would have lacked had it ignored issues of inequality and poverty within each generation. The poor in each generation could be the centre of concern, the Report argued, while addressing, at the same time, the issue of inter-generational justice.

Third, unlike some earlier statements on environmental preservation, which focused on conserving specific resources 'leaving the world as we found it', the Brundtland Commission shifted attention to conserving the ability of each generation of people to meet their respective needs. It took account of the fact that resources are fungible (one kind of resources can,

within certain limits, substitute for another), and that the relation between resources and outputs could vary with technical progress.

As against these virtues, it is sometimes argued that Brundtland's concentration on 'needs' and their 'fulfilment' cannot but be somewhat imprecise, even in contrast with, say, the gross national product, or the consumption level, or commodity production. This is indeed, to some extent, correct. But the presence of some ambiguity is a characteristic that Brundtland's concept of needs shares with all of the major ideas that have moved humanity (of which 'liberty, equality and fraternity' are good examples). Since people are the ultimate 'agents' of change, much must depend on their inspiration and commitment, and we do require a broad enough notion of sustainability that can be sufficiently enlivening. In detailed application, a general idea of this kind can, of course, be combined with more precise articulation (taking contingent note of the availability of data and information). So on this score too, the Brundtland Report showed sagacity and wisdom.

Sustainability of freedoms and capabilities

The achievements of the Brundtland Report also include its undoubted success in helping to shift the terms of the debates on the environment. The Report's extensive impact on thinking about the environment can be seen in the growing literature on the environment, and also in the nature of the debates that have been taking place in intermittent international gatherings that have addressed these and related issues. The environment was the central topic in Rio in 1992; the population problem was the focus in Cairo in 1993; poverty and social deprivation got attention in Copenhagen in 1994; gender inequality and women's roles provided the focus of the conference in Beijing in 1995; and problems of urbanization were discussed in Istanbul in 1996. These meetings have had varying concentrations, but they shared *inter alia* a commonality of concern about sustainability.

There remain, however, further questions that we must ask. The ends or objectives of sustainability are particularly important to probe and critically assess. It is easy enough to see that we do want sustainability in some form or other, but the question is: in which form? What rival conceptions to sustainable development may be worth considering? Is 'sustainable consumption'—the focus of the Royal Society study (*Towards Sustainable Consumption*)—a competing evaluative conception? To this specific question, I shall presently return.

Even within Brundtland's general idea of sustainable development, is it adequate to focus specifically on need-fulfilment as the basis of evaluating development? Why this exclusive concern with human needs, rather than, say, human freedom? There is a case, I think, for a substantial broadening here, without losing the advantage of Brundtland's fundamental interest in sustaining development. If we want to sustain the freedom of future generations to live the way they like and to what they have reason to value (no matter whether this corresponds to their own conception of their 'needs',

not to mention our conception of their 'needs'), then we should choose a freedom-based view of sustainable development.

The contrast between the perspective of need fulfilment and that of freedom and capability can be quite substantial (Sen, 1985a, 1992, 1999a). How are the needs that should figure in the analysis of sustainability to be identified and their relative significance determined? There would be an understandable fear of authoritarianism in presuming that some privileged officials or other 'leaders' would determine what needs are to be fulfilled first, and what should come, if feasible, later on, lower down in priority. Let me illustrate the contrast by making use of the well-argued case for changing consumption behaviour on which the recent Royal Society book has provided much illumination. As Sir Aaron Klug, the President of the Royal Society says in the Preface to the book, 'sustainable consumption' is 'likely to require major changes in the lifestyle of the most developed countries—something that none of us will find easy' (Heap and Kent, 2000, p. iii).⁴ It is clear from the evidence provided in the book that even the less developed countries would have to face similar problems with some rapidity. How is this change going to be brought about? If this is to be done through compulsion and force, rather than volition or consent, then some freedom (which may be worth preserving) would have been immediately sacrificed, in trying to conserve other things. If freedom is to be sustained—and not just the fulfilment of what the 'experts' see as 'needs'—then the entire discussion of 'sustainable consumption' has to be integrated with the sustainability of freedoms.

Certainly, human beings do have needs and it is good to have them met. But should people be seen only in terms of their needs (something human beings share with other animals), and not in terms of the importance of their freedom to decide what they want (including what needs to fulfil), to live the way they would like (whether or not the chosen lifestyle is seen as a need), and to do what they have reason to want to do (even if the reason is not one of fulfilling needs)? There is a big issue of individual choice here.

There is also a related 'social choice' problem, in determining the priorities between different kinds of freedoms, or—for that matter—even in the identification of different types of needs and the priorities between them (cf. Sen 1995, 1999b). If these identifications and priorities are to be determined by a process of democratic social choice, then there has to be freedom of discussion as well as freedom of political participation to allow the democratic process to work. Indeed, even the formation of values, including consumption behaviour, may depend crucially on open public discussion; and in this sense, freedom may have some claim to priority over the identification of needs and their relative importance (cf. Sen, 1994, 1999a).

We do need a broad-based programme that is freedom-oriented not just in the sense of being protective of liberty, but also in the sense of providing social support for crucial freedoms that people have reason to value. These freedoms may include such liberties as freedom from hunger, from illiteracy, from avoidable ill-health, from escapable mortality, as well as the freedom to

achieve dignity and respect, among other critical emancipations. There are some important grounds for favouring a freedom-oriented view—focusing on the enhancement of human capability—rather than seeing human beings only in their more elementary ‘animal’ form of having needs that demand fulfilment.⁵

Another problem—no less important—with the pure perspective of needs is that the individual’s conception of needs may adapt downwards as a result of continual deprivation. People’s expectations may adjust downward in the absence of any hope for achieving even the most elementary freedoms. For example, people who are used to living in a persistent state of undernourishment, illiteracy and lack of basic healthcare may come to think of nourishment or school education or medical attention as a luxury, rather than as a ‘need’, so that even if we go by their own self-perception of needs, we may take an unjustly limited view of their deprivation. In contrast, the self-diagnosis of needs in a state of freedom to achieve their fulfilment has a much more plausible social status than a diagnosis that tends to be muffled and muted by the experience of tenacious deprivation. Downward adaptation of the conception of needs can happen in many different fields, varying from the unquestioning acceptance of authoritarian interference to fatalistic tolerance of foul air or polluted water. We have reason enough to question that contentment if it is generated by hopelessness and resignation, in the absence of the courage and freedom to consider alternatives. As William Cowper has put it: ‘Freedom has a thousand charms to show. That slaves, howe’er contended, never know’ (‘Table talk’, l. 260).

This is obviously not the occasion to try to explore the perspective of judging individual advantage by the extent of freedom (and the real capability to do—or achieve—what one has reason to value). I have tried to explore this approach more fully elsewhere (Sen, 1992, 1999a). I have also argued elsewhere why and how the understanding of development can be fruitfully seen in this perspective; that is, through understanding the process of development as one of enhancement of human freedom and capability.

A similar application is possible in the characterization of sustainability and in working out its various demands. Indeed, for this, we need to modify the Brundtland framework only in one specific respect—even though it is a rather central respect—to achieve this broadening of outlook. With this freedom-oriented modification, we can see ‘sustainable development’ as development that prompts the capabilities of present people without compromising capabilities of future generations. This too has some ambiguities (similar to what Brundtland’s concentration on the conservation of need-fulfilment has, which was discussed earlier). But, again in particular applications, the capability-centred approach (like Brundtland’s formulation), which provides a broad vision, can be made more specific in its demands (e.g. in terms of giving priority to certain types of freedoms). The contrast with the Brundtland approach is not in terms of precision and ambiguity, but in terms of the underlying evaluative conception. Since people can be expected to give some priority to fulfilling their standard needs, this

broadening retains the merit of not overlooking human needs, but this is done without treating human beings merely as the locations of needs and their fulfilment. The overall effect is to integrate the idea of sustainability with the perspective of freedom, so that we see human beings not merely as creatures who have needs but primarily as people whose freedoms really matter.

Sustainability of consumption

I have been contrasting the freedom-based and need-based perspectives while sticking to the general framework of sustainable development. Should I not also consider rejecting that framework altogether, in favour of some rival basic conception, such as the claims of 'sustainable consumption', proposed in the Royal Society study? Can't it be sensibly used as an alternative to the foundational idea of sustainable development itself?

I do not believe that this would be a good move. Consumption is a means to an end, and 'sustainable consumption' lacks the evaluative force that the idea of 'sustainable development' enjoys. Within the Brundtland approach, it can, for example, be plausibly argued that what has to be sought is the maximal sustainable development. Can we sensibly argue, by analogy, that the right objective in the consumption-oriented perspective would be to maximize sustainable consumption? I would argue against this, because the plausibility of such an objective is seriously compromised by the fact that consumption is merely a means to our ends, and not valued for its own sake. Why try to go for the maximal sustainable level of what is just an instrument (a means to other ends), irrespective of what it would do to concerns that have a greater claim to be seen as our real ends (such as well-being or freedom or need-fulfilment)? To ask for the maximization of sustainable consumption would replace an end-based objective with a means-based objective (not in general a sensible move). On the other hand, to demand both types of maximization simultaneously would, of course, be to 'overdetermine' the system, with well-known problems of inconsistency.

The contribution of the idea of sustainable consumption—and it is an important contribution—lies, I think, elsewhere. To show that the present tendencies in consumption behaviour are unsustainable is itself an important recognition, and we can take note of the importance of this recognition. It supplements the idea of sustainable development by indicating that many consumption habits would have to be changed because they would interfere with the requirements of sustainable development. This can be a crucial instrumental argument related to the objective of sustainable development itself: we do not need another evaluative concept of sustainability—only a strategic concern. Indeed, this is where, I would argue, the great value of the concern with sustainability of consumption lies.

In the instrumental context, sustainability of consumption can help to illuminate the constraints that operate in pursuing long-run development in general, and in promoting sustainable development in particular. Indeed, even the dangers of overpopulation can be helpfully seen in this light Even

though Malthusian scares about food and population are periodically revived (particularly by those who have an impeccable record of false prediction over many decades now), this is not where the main challenge lies. Indeed, it is hard to overlook the fact that food output per head has been steadily increasing despite dramatically falling world prices of food in real terms (which reduces the market incentive to produce more food). It is also true that the rate of growth of population has been falling too, and while fertility rates have declined unevenly across the globe, the lessons from the more successful cases can be learned and used in other countries as well (on this more presently).

The linkage with consumption—related to the Royal Society's concern with sustainable consumption—is a good way of thinking about the population problem. It is often argued, I believe with a false sense of comfort, that since most of the expansion of world population now occurs in rather poor countries where the consumption level is very low, the impact of population growth on the environment cannot be very big. This argument is obviously wrong at the local level, where the pressure on the regional environment can be very severe indeed (Dasgupta, 1993). But furthermore, it is not a very insightful point even for the global environment. As the poorer countries become richer and more developed, if the same pattern of consumption was to be adopted as the one that occurs now in the richer countries, then the extent of global pollution and environmental pressure that would be generated would be extraordinarily large. It is in this 'compounding' perspective that the ways and means of sustainability of consumption has to be viewed. The focus on unsustainability of consumption tendencies importantly draws our attention to this issue and helps to place the population problem in perspective.

Compulsion versus freedom: fertility preferences

The fears regarding unsustainability of consumption patterns are, therefore, real even in the perspective of sustainable development. Let me now turn to the ways and means of dealing with this and related issues. If sustainability requires a behavioural change that makes people less inclined towards massive—and massively resource-depleting—consumption (and more towards seeking fulfilment in activities that take a less improvident form), can this valational change happen voluntarily? Or is coercion or compulsion the only feasible route (if any)? If the latter, then, as already argued, something important would have to be sustained—in particular, a crucial freedom to decide how to live and what to consume, without being ordered around by some 'big brother'. Sustainable development in the form of freedom can take note of political and social liberties as well as the fulfilment of economic and material needs.

Are people free to choose at all? Even though it is often presumed that evolutionary selection implies that people do not have any real freedom, since their mental reactions must be determined by natural selection, this argument is, in

fact, based on a confusion of categories. The selection of mental abilities and inclinations through the evolutionary process may well happen, at least partly, through an involuntary process, but this does not, by any means, rule out that the mental abilities thus selected may include the ability to reason and assess and choose (since these faculties do have evolutionary merit as well). This point relates, I presume, to Patrick Bateson's (2000, p. 16) more general conclusion that 'a proper understanding of biology brings back free will—even if the freedom is constrained and sometimes used unwisely'.

The possibility of valuational change through reasoning and freedom must be seriously considered. The reach of reason was indeed the subject of a major controversy in the period of European Enlightenment, dealing in particular with the issue of population growth and fertility behaviour. I refer to the confrontation between Condorcet's (pro-freedom) and Malthus's (anti-freedom) arguments, almost exactly 200 years ago, on the subject of over-population—an issue that remains central to discussions on sustainability in the contemporary world.⁶

In fact, it was not Malthus, but Condorcet, the French mathematician (and Enlightenment thinker), who first pointed to the possibility that the size of the population can quite conceivably 'surpass their means of subsistence'. Malthus's more famous expression of this fear came some years later, with quotations from Condorcet. But Condorcet had gone on to argue that this eventuality was not likely to occur because of freely chosen declines in fertility rates, resulting from more education (including more female education) and—most importantly for Condorcet (the Enlightenment theorist)—because of 'the progress of reason'. Malthus totally rejected Condorcet's argument, and insisted that nothing short of compulsion will make people reduce fertility rates.

Was this disagreement between Malthus and Condorcet a deep divide? I believe it was a deep divide, the echoes of which can be heard even today. There is a tendency in modern Malthus scholarship to emphasize the fact that Malthus had changed some of his views over the years, which is true. But his basic distrust of the power of reasoning and freedom, as opposed to the force of economic compulsion, in making people choose smaller families remained largely unmodified. Indeed, in one of his last works, published in 1830 (he died in 1834), Malthus restated his belief that fertility reduction will significantly occur only under the compulsion of economic necessity, not through more freedom:

There is no reason whatever to suppose that anything beside the difficulty of procuring in adequate plenty the necessaries of life should either indispose this greater number of persons to marry early, or disable them from rearing in health the largest families. (Malthus, 1982, p. 243)

Who won? Debates of this kind are usually difficult to resolve, but as it happens this particular debate is not hard to settle empirically. Not only

have fertility rates come down over time, there is plenty of evidence that ‘the progress of reason’ in the development of the new norms of smaller families has played a major part in this.⁷ Furthermore, cross-section comparisons across countries show that the decline of fertility rates relates closely to the empowerment of young women whose lives are most battered by over-frequent bearing and rearing of children.⁸

This lesson also emerges clearly from cross-section comparisons across the hundreds of districts that comprise India. Not surprisingly, women’s education and female employment, both of which increases women’s voice in family decisions, emerge as the two biggest influences in reducing fertility rates. Even though the total fertility rate for India as a whole—despite a drop from six children to just above three children per couple—is still substantially higher than the replacement level of about two per couple, it is interesting and important to note that many districts in India have substantially lower fertility rates than the USA and much of Europe (and of course, China). The fertility declines in the states of Kerala, Tamil Nadu or Himachal Pradesh in India can be closely linked to women’s empowerment, related to the rapid enhancement of female education and other influences on the standing and voice of young women.

An example that is no less interesting is provided by Bangladesh, which has had a very sharp reduction in fertility rates (see, among other contributions, Caldwell *et al.*, 1999). This is associated, it appears, with a variety of factors, including the expansion of family-planning opportunities, greater involvement of women in economic activities (e.g. through micro-credit movements), and much public discussion on the need to change the prevailing patterns of gender disparity. All of these influences contribute to women’s empowerment, and even the increased availability of family-planning facilities can be seen in the broader light of helping young women to acquire greater reproductive freedom—an important part of their overall freedom. The greater social and economic role of women in Bangladesh has been widely noted. The fertility rate in Bangladesh has crashed down at a remarkable speed, from just above six to just above three in a little over two decades. All this has happened without any coercion, through the use of greater social freedom (including empowerment of young women).

In contrast, China is often taken as an example on the other side, as providing positive evidence of the effectiveness of coercion in fertility reduction (like the ‘one child’ policy). There is need for more study on the details of the Chinese experience, but at the aggregate level fertility decline has certainly been quite sharp in China. The question that does arise is whether a somewhat similar decline should not have been expected, even in the absence of coercion, because of China’s remarkable achievements in female education and employment. Indeed, in international discussions, China tends to get too little credit for its more humane policies (particularly in expanding educational and employment opportunities, including those for women), and too much emphasis is put to its more coercive policies in explaining its achievements.

There is, in fact, an interesting way of doing a little testing of the effectiveness of China's enabling policies (particularly related to women's empowerment), in contrast with its harsher and more coercive policies. The Indian state of Kerala, which has also had very fast expansion of female education—but no compulsory family-planning—experienced a similarly fast decline in the fertility rate, with no coercion at all. In fact, Kerala's expansion of female education is faster than China's and so its decline in fertility rate, even over the period since 1979 when the 'one child' policy was introduced in China. The Chinese fertility rate fell from 2.8 to 2.0 between 1979 and 1995; Kerala's rate fell in the same period from 3.0 to 1.7. Also, thanks to the process of fertility decline being freely chosen, rather than coercive, the infant mortality rate has continued to fall in Kerala in a way it has not in China. Although the infant mortality rates were rather similar, Kerala's infant mortality rate was 16 for boys and 15 for girls in contrast with China's 28 for boys and 32 for girls.

Freedom, values and power

Behavioural change for fertility decline seems to work best with more freedom, not less. The possibility of non-coercive change in valuation and preference is important to note here, and it may well have a bearing on the possibility in valuational change in other fields as well. In fact, Condorcet's pro-freedom and pro-reason view in the field of fertility reduction was matched by his hope of similar transformations in other fields, some of which are crucial for environmental improvement. Indeed, Condorcet was one of the first to address this issue (already in the late eighteenth century), and he expressed the hope that people will reason their way into achieving technical progress as well as behavioural adjustments to achieve the following:

A very small amount of ground will be able to produce a greater quantity of supplies of greater utility or higher quality; more goods will be obtained from a smaller outlay; the manufacture of articles will be achieved with less wastage in raw materials and will make better use of them. (Condorcet, 1955, p. 187; cf. Rothchild, 1995)

These issues relate closely to assessing the prospects of non-coercive shifts in consumption habits today through reasoning and freedom (with which Patrick Bateson, for example, is concerned, in the context of investigating the possibility of sustainable consumption). It is, however, worth noting that the case of fertility reduction has the special feature that the very rapid fertility reductions in developing countries relate to the partial rectification of a remarkable mismatch of power and interest. The lives that are ruined by over-frequent bearing and rearing of children are those of young women, whereas the decisional power within the family in many of these countries tends to rest, primarily, with men. With an expansion of female education and female employment, there is a shift in the balance of power within the

family, to which an expansion of family planning facilities also contributes (Sen, 1990). Effectiveness of reasoning cannot be dissociated from the freedom and power to participate in decision-making.

Indeed, even the contrary problem of extremely low fertility and the sharp decline of birth rates, observed recently in some European countries, can be fruitfully analysed in terms of factors that influence agent-related reasoning and the distribution of decisional power. The problems of low fertility is not a problem I am addressing in this paper, but it may not be entirely irrelevant to note that the precipitate fall in fertility has been particularly sharp in some countries (such as Italy and Spain; in contrast, say, with Sweden or Norway or Denmark) where the amount of uncompensated household work done by women is exceptionally large (it is in fact largest in Italy, according to a United Nations Development Programme report, than in any other country for which reliable data exist). The combination of women's enhanced—indeed principal—role in fertility decisions (common in Europe) and the reasonable ground that exist in some European countries for women to be sceptical of large families can contribute to a particularly sharp reduction in fertility decisions (common in Europe), and the reasonable ground that exist in some European countries for women to be sceptical of large families can contribute to a particularly sharp reduction in fertility rates (not similarly observed in countries like Sweden where the household work is more evenly shared). Obviously, in analysing this issue, we have to take note of many other concerns as well; if the connection hypothesized here is right, it would be at most one of many different forces at work. Even though I am persuaded that thinking in terms of reasoning and decisional power is basically the right framework for scrutinizing this problem too, I shall not further pursue this question in this paper.

There are lessons in all this for what can be expected in behavioural changes of various types related to issues of environment and consumption. It has to be borne in mind that quite often the isolated individual has very little opportunity of going against established patterns of behaviour and socially accepted norms. The power of the individual—and even of the family—can be heavily constrained, in this case, by the social climate. The actual prospects of behavioural change may depend on such social processes as public discussion and interactive exchange within a society (Sen, 1999a).

The focus on freedom and agency has various policy implications. Let me illustrate this with a somewhat different way of thinking about an often-discussed environmental remedy. It has been noted, correctly in the relevant context, that some of the neglect of common resources arises from the fact that individuals do not have property rights over these resources (such as common fields and other shared facilities; see Dasgupta and Mäler, 1995; Mäler, 2000). A person may have a strong reason to conserve a unit of resource if she has power over its use, and furthermore she may be able to achieve this conservation if she can exclude the drawing of others on that privatized resource. This suggests the need for creating new property rights.

This property-right-based approach to environmental conservation has many merits (and it can also, by the way, be integrated with general ideas of effectiveness of freedom and control, which are what property rights provide to the individual owner). But that policy approach can also be subjected to some critique—also with the help of freedom-based considerations. In particular, I want to add to this increasingly popular argument that we must also consider the possibility that the creation of such property rights might, under certain circumstances, not be a good tool at all. This is not only because of the obvious difficulty that property right may be quite hard to establish in some fields (e.g. in dealing with the ozone layer); this is a well-known point. But there is another important issue too. The procedure of creating new property rights may go against the sense of sharing of a common resource, and this in turn can have negative consequences on social identity as well as inequality. It can reduce—through making some people lose access to communal resources—the sense of social harmony on which valuations changes may considerably depend. If valuations changes are important (in addition to what the suitably chosen institutional changes can achieve), then attention must be paid to the interdependences involved. There is, thus, more work to be done here, in supplementing purely institutional arguments (important as they are) with broader concerns of social psychology, particularly the psychology of sharing and of social freedom.

A concluding remark

Time to end. I shall not try to summarize the paper, but I do want to emphasize how important it is to take an adequately broad view of human beings in dealing with the environmental problems we face and the predicament of unsustainability with which we are threatened. While I have tried to review some of the major contributions to the literature, varying from Brundtland Report's championing of sustainable development to the Royal Society's recent focus on the strategic role of sustainable consumption, I have also tried to outline an alternative perspective that concentrates on the importance of human freedom. Indeed, freedom may have a role both in the specification of the ends of sustainability and in the identification of the means for achieving this. It operates through values as well as institutions.

In a scientific conference like this, with its abundance of expertise and specializations, it may be especially important to recollect the general role of public discussions and participation (and related to it, of political freedom and civil rights). They can be crucial in behavioural change and in the use of responsible agency. The history of changing fertility preferences and the influences that have been effective in these changes illustrate the role of reasoning and decisional power. The medieval distinction between seeing human beings as 'agents' and as 'patients' has not lost its relevance in the contemporary world. The reach of reasoned and interactive agency can indeed be remarkably extensive. It can be particularly crucial for our transition to sustainability.

Notes

- 1 I have argued elsewhere that the success of development as a process also depends on the role of people as agents rather than just as patients (Sen, 1999a).
- 2 This occurs in 'In Memoriam' (1850). There is a distinctly 'Darwinian' feature in the contrast that Tennyson draws. It was, however, published 10 years before 'The Origin of Species'.
- 3 In a joint paper with Sudhir Anand, I have explored these issues further, along with discussing the basic demands of sustainable human development (Anand and Sen, 2000). An earlier version of this essay (Anand and Sen, 1994) was used for the conceptual chapter of *The Human Development Report 1995* (UNDP, 1995; see 'Foreword' and 'Overview'). See also Harris *et al.* (2000).
- 4 Brian Heap also notes in his 'Introduction' to the volume: 'sustainable consumption as a concept is a hotbed of controversy' (Heap and Kent, 2000, p. 4). Disputes can arise from epistemic problems, including difficulties in knowing what the effects of additional consumption would be on the environment, how they can be altered or modified, how technological progress may change the basic empirical relations, and so on. These issues are important also, and they supplement the problems in bringing about changes in consumption habits, with which this paper is particularly concerned.
- 5 The perspective of freedom can *inter alia* incorporate the importance of need fulfilment, since the freedom to fulfil certain needs would typically be among the more important freedoms that a person has reason to value (cf. Sen, 1985b, 1992).
- 6 The discussion that follows is more fully developed in Sen (1999a), and more summarily in Sen (1996).
- 7 See Massimo Livi Bacci (2000), especially Chapter 6, and also the literature cited there.
- 8 See Easterlin (1980), Caldwell (1982), Cassen *et al.* (1994), and Lindahl-Kiessling and Landberg (1994), among many other contributions.

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