Measuring need satisfaction

Book section

Chapter 8

MEASURING NEED SATISFACTION

In Part II we have argued that basic needs exist which are objective and universal but our understanding of which changes, and typically expands, through time. We also recognised that these needs are met by innumerable specific satisfiers, which do vary across cultures. Here, we must again address the many problems which flow from this duality of universality and particularity. Can we articulate what physical health and autonomy mean in terms which are universal yet measurable? What does optimising need satisfaction entail in practice? Can we devise measures which directly assess levels of satisfaction? These are the sorts of questions asked in this chapter. None of them is novel. Indeed, they have all been tackled in the rapidly-growing literature on 'social indicators', the 'basic needs approach' and the 'human development' concept. It is therefore with this body of literature that we begin our analysis of human needs in practice.

Social indicators and other direct measures of human welfare

A diverse collection of empirical indicators designed to assess 'need satisfaction' is now commonly used throughout the world. Though these have older roots, the 1960's saw a new interest in direct non-monetary measures of well-being in the 'First' and the 'Third' Worlds for both theoretical and practical reasons.

Theoretically this stemmed from dissatisfaction with national income as a measure of total product, let alone human welfare. Gross Domestic Product sums the net values added of those goods and services produced within the monetised sectors of an economy. In its unadjusted form it excludes peasant and other production for direct consumption (which can amount to 40% of total product in less developed economies) together with the vast range of unpaid activities and services performed chiefly by women within the domestic sphere (which can amount to 40% in the more developed economies). Yet as a measure of welfare GDP per head is still more deficient. It takes no account of the composition of output between need satisfiers and luxuries - between 'goods, bads and anti-bads', nor of the distribution of welfare between groups and within families, nor of the impact of production and consumption on human well-being (unless well-being is defined in terms of those things which GDP measures), nor of the side-effects of production on the environment and the biosphere and hence of the sustainability of future production and welfare [Miles, 1985, ch.2].

These deficiencies are well known - indeed they are in one sense misplaced as critiques in that GDP was not initially devised to measure either aggregate production or welfare. But during the last half century these inadequacies have led to the search for alternative measures of welfare [Miles, 1985, ch.2]. To begin with, Drewnowski and others associated with the UN Research Institute of Social Development developed the concept of 'level of living' - direct measures of need satisfaction in various areas of life [Drwenowski and Scott, 198 , p.00]. This was subsequently theorised by other social scientists mainly in the Nordic countries. Von Wright [1963] developed the distinction between objective welfare and subjective happiness in this

context. Allardt [1973] then broadened the approach from material level of living to embrace those aspects of life usually the subject of the personal and political realms. In this way he distinguished three fundamental dimensions of objective well-being - 'having', 'loving' and 'being' - while retaining the contrast with subjective well-being [see also Galtung, 1982].

These theoretical developments reflected, and contributed to, practical developments. In the First World, governments began to move on from Keynesian economic management to broader responsibilities for social planning, and this in turn required the construction of new statistics for modelling and control purposes. Social reporting was developed in the USA and spread via such publications as the British government's Social Trends. In 1973 the OECD identified a 'list of social concerns common to most member countries' and subsequently specified and constructed social indicators to monitor progress with respect to these concerns [OECD, 1976].

In the Third World in the 1960s and 1970s, respectable rates of growth in some regions failed to prevent worsening levels of relative and even absolute poverty, an experience which generated an explicit 'basic needs approach'. 'Economic growth', measured by rates of change in GDP, was criticised as an index of both 'development' and 'welfare'. Attempts to chart the latter led eventually, via a focus on employment and income distribution, to an explicit concern with 'basic needs'. In 1976 the ILO adopted a Declaration of Principles and Programme of Action for a Basic Needs Strategy of Development, and in 1978 the World Bank initiated work on basic needs. These and other initiatives set in motion programmes to collect and collate indicators of basic need satisfaction, typically prioritising a small set of basic needs such as nutrition, primary education, health, water supply, sanitation and housing (1). Many advantages were claimed for the basic needs approach as both a goal and a set of policy priorities for Third World countries [Streeten, 1981, chs.18-19; Stewart, 1985, ch.1]. The goal was applicable to the concerns of all people and it was widely acceptable and hence appealing to international aid agencies. Above all it was morally sound: 'putting basic needs first', some argued, was closer to what should be the fundamental objectives of development. Trivial sums of money could be shown to relieve vast areas of suffering. As a means of prioritising policies in a context of limited resources it integrated separate issues into a coherent package, yet could justify concrete programmes for specific vulnerable groups.

Yet despite theoretical advances and political advantages the movement for social indicators and human development appears to have run into the sand. Politically, the social indicators movement was weakened in the 1980s, especially in the English-speaking world, by the rise of neo-liberalism. The resulting IMF-led policies of 'structural adjustment' in the Third World paid scant regard to basic needs, human development or quality of life [Cornia et al, 1987]. By the 1980s many countries were experiencing falling growth rates and spreading absolute poverty. At the same time the basic needs strategy was also criticised by Third World critics as being an imperialist riposte to their demand for a New International Economic Order. Instead they stressed the prior need for the underdeveloped nations to reduce their economic dependency on the West [Miles, 1985, p.169].

Undoubtedly, the crises facing the international economy contributed to what some identified as a crisis facing the social indicators or 'human development' movement in both the South and the North. So too did the impracticality of some basic need strategies, the 'breathtaking innocence of socio-political reality' exhibited by some [Leeson and Nixson, 1988, p.34, cf. ch.2]. But well before this time the relativist wave, documented in Chapter 1, was eroding their conceptual foundations. The basic needs approach, it was argued, incorporated arbitrary postulates about human nature, in particular Western cultural values, and about social change, in particular a uniform, linear model of development. Instead an anthropological approach to evaluating quality of life was advocated, particularly among some Nordic theorists [ ]. This articulated more culture-bound concepts of 'style of life' and 'way of life'. At the macro-level it entailed a greater emphasis on community and participation as ways of understanding the needs of particular social groups. In many ways, and in some hands [eg. Johansson, 1976], this represents a positive contribution to developing the sort of cross-cultural understanding of human need attempted in this book. However, elsewhere it has helped to discredit any notion of universal human need [ ].

The decline and fall of the social indicator/human development movements has been due first and foremost to the lack of a unifying conceptual framework [cf. Sen, 1987, p.25]. The earlier theoretical innovations noted above all suffer from one over-riding defect. None of them demonstrates the universality of their theory, nor, the other side of the same coin, tackles the deeper philosophical questions raised by relativism. Either the very idea of a universal approach is rejected, as when Rist writes: 'Needs are constructed by the social structure and have no objective content' [Rist, 1980, p.241]. Or, more commonly, the theoretical possibility of universal needs is granted, but their concrete assessment is perceived as beyond reach due to the cultural and political bias of concepts and evidence (2).

Thus Galtung [1980, p.73] grants that basic human needs exist, but are 'perverted' or 'contaminated' by Western conceptions, categories and lists. We can approach the universal core only by generating alternative non-Western lists of needs. A universal list is a dangerous illusion, even though he holds out the prospect of getting closer to it via dialogue between contending lists. In the same vein, Carr-Hill begins from the recognition that 'measurent work and statistical work in general are not politically, socially or theoretically autonomous activities', and proceeds to a real fear that technical solutions can replace fundamentally political problems. 'There are then two possible consequences: either one does not construct indicators at all ("because they are ideological"), or one constructs those indicators most suited to one's political predilections' [Carr-Hill, 1984, pp.180,176]. He adopts the second approach, but cannot then gainsay any alternative system of indicators put forward by proponents of alternative value systems. Back to relativism. Yet it is not enough to attack relativism in the abstract and to argue for the existence of basic needs in theory. We must show what they entail in practice, especially the practice of applied social research.

Satisfiers and 'Intermediate Needs'

While the basic individual needs for physical health and autonomy are universal, many goods and services required to satisfy these needs are culturally variable. For example, the needs for food and shelter apply to all peoples, but we have seen that there is a potentially infinite variety of cuisines and forms of dwelling which can meet any given specification of nutrition and protection from the elements. We have called all objects, activities and relationships which satisfy our basic needs 'satisfiers' [Kamenetzky, 1981, p.103]. Basic needs then are always universal but their satisfiers are often relative. Sen has made a similar point in his analysis of poverty: 'Poverty is an absolute notion in the space of capabilities but very often it will take a relative form in the space of commodities or characteristics' [1983,p.161]. The same point has been made by some contributors to the literature on basic needs and social indicators [eg. Lederer, 1980]. The existence of basic needs or capabilities which are universal to all people is quite consistent in theory with a rich variety of ways in which they can be met and a wide variation in the quantity of satisfiers required to meet them. But to measure need satisfaction in practice further requirements are necessary.

In a series of papers Sen [1984, 1985, 1987] has developed a concept and measure of well-being with parallels to our own which contributes to this task. First, he draws a distinction between a commodity and its set of characteristics or desirable properties [Lancaster, 1966]. A meal, for example, may have the properties of satisfying hunger, establishing social contacts or providing a centre for family life. Conversely, a number of distinct commodities will often share one or more characteristics, as when all (or most) foodstuffs have the characteristic of satisfying hunger. Second, he argues that these characteristics must be distinguished from the 'functionings' of persons - what a particular person can achieve or succeed in doing with the set of commodity characteristics at her or his command. The set of functionings which persons can choose - their 'freedom of choice' of functionings - he calls their 'capabilities'. Functionings and capabilities are in turn distinguished from the final state of mind of that person, such as happiness or desire-fulfilment. Hence Sen constructs an analysis of consumption and welfare, richer than that of orthodox economics, as follows:

Commodities Characteristics Capabilities/Functionings Mental states

We propose to integrate Sen's framework with our own. His model suggests that there are two alternatives to either wealth (commodities) or utility (subjective end-states) as measures of well-being: 'capabilities/functionings' and 'characteristics'. Let us look at each in turn.

First, it is apparent that our basic needs for physical health and autonomy are closely related to functionings. But Sen can be criticised for not developing a systematic list of functionings and capabilities, despite his own helpful applications of his framework. It is just this which, we claim, our theory offers. The first task of operationalisation is thus directly to measure the degree of satisfaction of our basic individual needs using cross-cultural measures. In Chapter 9 we show that considerable progress has been made in doing just that. Nevertheless, certain conceptual and empirical problems remain, which often leave us confronting a hard choice between

universalisability and operationality. How can basic need satisfaction or 'objective welfare' be charted without either embracing relativism or working at such a level of generality that the relevance of our theory for specific problems concerning social policy is lost?

Second, as Sen suggests, to avoid this we must complement the first approach with one based on satisfiers and their characteristics. 'Satisfier characteristics' are a subset of all characteristics, having the property of contributing to the satisfaction of our basic needs in one or more cultural settings. Let us now subdivide this set further to identify universal satisfier characteristics: those characteristics of satisfiers which apply to all cultures. Universal satisfier characteristics are thus those properties of goods, services, activities and relationships which enhance physical health and human autonomy in all cultures. For example, calories a day for a specified group of people constitutes a characteristic of (most) foodstuffs which has transcultural relevance. Similarly 'shelter from the elements' and 'protection from disease-carrying vectors' are characteristics which all dwellings have in common (though to greatly varying degrees). The category of universal satisfier characteristics thus provides the crucial bridge between universal basic needs and socially relative satisfiers.

Given the instrumental character of statements about human needs outlined in Chapter 3, universal satisfier characteristics can be regarded as goals for which specific satisfiers can act as the means. For this reason, and because the phrase is less clumsy, let us refer to universal satisfier characteristics as intermediate needs. If this reasoning is correct, such needs can provide a secure foundation on which to erect a list of derived or second-order goals which must be achieved if the first-order goals of health and autonomy are to be attained. As Braybrooke [1987, ch.2.2] points out, the construction of such lists is a common practice and there is a 'family of lists of needs' which have emerged from very different studies. However international organisations like the OECD, national governments and private individuals have all propounded different lists (3). Some items like food and water appear on all of them; others like 'recreation' or 'command over goods and services' do not. The problem with such lists is their ad hoc character. By contrast, our theory dictates which intermediate needs are most important for basic need satisfaction, why this is so and why they are the same for all cultures. Intermediate needs can be grouped as follows:

Nutritional food and clean water
Protective housing
A non-hazardous work environment
A non-hazardous physical environment
Appropriate health care
A secure childhood
Significant primary relationships
Physical security
Economic security
Appropriate education
Safe birth control and child-bearing

The only criterion for inclusion in this list is whether or not any set of satisfier characteristics universally and positively contributes to physical health and autonomy. If it

does then it is classified as an intermediate need. If something is not universally necessary for enhanced basic need satisfaction, then it is not so classified, however widespread the commodity/activity/relationship may be. For example, 'sexual relationships' is not included in our list, because some people manage to live healthy and autonomous lives without inter-personal sex. Similarly, an item which is found to be harmful to health and autonomy in one social context (eg. high-rise housing in Britain) will not be included if in other societies it is not found to have this effect [see eg. Douglas, 1983, pp.171-2].

There is one partial exception to our definition of universal satisfier characteristics. Significant biological differences within the human species may occaision specific requirements for distinct satisfier characteristics. The most significant of such differences by far is the sex difference between men and women. We shall argue in Chapter 10 that this entails one further universal satisfier characteristic the satisfaction of which is essential to the health and autonomy of one half of the human race. Women require access to safe birth control and child-bearing if they are to enjoy the same opportunities to participate in their respective societies as men.

The evidence about what is universally necessary is derived from two principle scientific sources. First, there is the best available technical knowledge articulating causal relationships between physical health or autonomy and other factors. Second, there is comparative anthopological knowledge about practices in the numerous cultures and sub-cultures, states and political systems in the contemporary world [Braybrooke,1987, chs. 2.3, 2.4; cf. Mallmann & Marcus, 1980]. Thus the understanding of both the natural and social sciences play their part in rationally determining the composition of intermediate needs. As we shall see, however, this is not to devalue the contribution of Habermas' 'practical' understanding discussed in Chapter 7.

Like all taxonomies this list of intermediate needs is, in one sense, arbitrary. Its groups are 'verbal wrappings' or 'labels' designed to demarcate one collection of characteristics from another. Moreover, the word-labels used will be ambiguous - they will 'not contain or exhaust the meaning of the need identified' [Judge, 1980, p.280]. Ambiguity can be reduced by increasing the numbers of characteristics or 'need categories'. Yet the larger the set, the greater the problems in comprehending the totality of human needs. Yet at the end of the day, the actual categories do not matter. Whatever the taxonomy, our theory requires that the sole condition for selection is the universality of the satisfier characteristics.

Thus we propose to measure need satisfaction defined in terms of (i) basic needs and (ii) intermediate needs. There is a third interpretation of need satisfaction, but it will feature infrequently in this volume. This entails measuring the consumption of specific satisfiers in a particular social context. To determine which satisfiers constitute necessities at a particular place and time requires distinct research methodologies pioneered by, for example, recent poverty research in Britain (4). In particular, codified knowledge needs to be complemented by a rich input of experiential knowledge from the people living the particular lives under investigation. Some of

these issues will be broached in our concluding chapter, and the poverty research is partially utilised in Chapters 9 and 10. Otherwise, our analysis will stick resolutely to those intermediate needs which must be satisfied if the basic needs for physical health and autonomy are themselves to be satisfied.

Standards of basic need satisfaction

The next problem concerns the standards with which measures of need satisfaction are compared and shortfalls in need satisfaction calculated. As regards basic needs, we have already made clear in Part II that we endorse neither an absolute minimum standard nor a culturally relative one. The former cannot be drawn simply with reference to biological data, since our understanding of what it is possible to alter shifts - and typically expands - through time. The second would mean sliding back into culturally distinct and incomparable metrics which would negate our whole project. Instead, we propose a third standard - the optimum.

In Chapter 4 the optimum degree of basic need satisfaction is defined at two levels. At the first, health and autonomy is such that individuals can choose the activities in which they will take part within their culture, possess the cognitive, emotional and social capacities to do so or have access to the means by which these capacities can be acquired. Let us call this the 'participation optimum'. At the second level, optimum health and autonomy is such that individuals can formulate the aims and beliefs necessary to question their form of life, to participate in a political process directed toward this end and/or to join another culture altogether. In neither case does optimum imply 'maximum', which is extremely difficult to operationalise as regards health and autonomy. In practice, the physical and mental health requirements for participating in a culture and for questioning and improving that culture will be the same. It is in the domains of cognitive understanding and social opportunities for participation that the two levels of optimisation diverge. The critical optimum will extend to embrace opportunities to acquire advanced knowledge of other cultures and to exercise political freedom as opposed to freedom of agency. Following the argument in Chapter 6, it is to need satisfaction at the 'critical optimum' level that all people have an entitlement.

What is required then is an aggregated social indicator of such 'critical optimum' levels of health and autonomy. In practice this can mean either the best level of need satisfaction achieved anywhere in the world at the present time, or a better standard than this which is materially feasible at the present time. Both standards raise complex issues concerning generalisability, the global politics of need and economic sustainability. For the time being we shall skirt around these problems. Using the term in the first sense, let us define the critical optimum according to the most recent standards achieved by the social grouping with the highest overall standards of basic need satisfaction. A variety of social categories could be used to delimit the best-off groups - social classes, income categories, racial groups, men as opposed to women - within or across countries. Thus how the optimum is operationalised will in part depend on the task at hand. In much of this book we shall use the social grouping which is most meaningful on a global scale - the nation state.

Our operationalisation of optimal need satisfaction, therefore, will be linked empirically to the actual performance of those nations with the highest levels of physical health and critical autonomy. There is a choice here between using different 'best practices' drawn from different states - Japan for life expectancy, Sweden for economic security, and so on - or using a single nation which on average is the best performer. The latter has the advantage that this level of need satisfaction is demonstrably feasible and that any possible tradeoffs between different needs and between the needs of different groups of people will have been discounted [Naroll,1983, p.64]. Not only does 'ought' imply 'can'; 'is' implies 'can' too [Williams, 1987, p.96]. According to the data presented in Chapter 12, this country will be shown to be Sweden.

Of course, for much of the Third World an optimum standard like this is unrealistic at the present time. Though such an optimum remains the only logical and moral criterion that can be applied to judge need satisfaction in the long term, this does not rule out lower standards being used as strategic goals in the short term. For less developed nations, lower positions can be derived by identifying those nations which achieve the best results at any level of (orthodoxly defined) economic development. In Chapters 12 and 13 we agree with those who argue that Costa Rica can serve as an exemplar nation for the midle-income countries of the Third World, and that before 1977 and its present civil strife, Sri Lanka was a star performer among the poorest nations of the world.

Standards of intermediate need satisfaction

Given the preceding arguments, the next stage is to determine the levels of intermediate need satisfaction - for each universal satisfier characteristic - which yield optimum levels of basic need satisfaction. This raises the question of how intermediate need 'inputs' are related to the 'outputs' of physical health and autonomy. We shall discuss this question in Chapter 10, but a more general observation can be ventured here. In a study of the impact of the environment on mental health, Warr develops a 'vitamin model' which we belive is applicable to this task. He notes that the availability of vitamins is important for physical health up to, but not beyond, a certain level:

'At low levels of intake, vitamin deficiency gives rise to physiological impairment and ill-health, but after attainment of specified levels there is no benefit derived from additional quantities. It is suggested that principal environmental features are important to mental health in a similar manner' [Warr, 1987, pp.9-10 et seq; also Goldstein, 1985].

This holds for physical health and other components of autonomy as well. In other words, a particular level of satisfaction for each intermediate need is required if human health and autonomy are to be optimised, but beyond that point no further additional inputs will improve basic need satisfaction. For example, the ratio of doctors to patients is positively associated with certain measures of survival and health in low-income countries, but not in high-income countries. This suggests that the effect of quantity of medical provision on physical health reaches its asymptote at some intermediate level. To take another example, once a dwelling is safe, warm, not overcrowded and supplied with clean water and adequate

sanitation, no further improvements - in space, amenities, luxury fittings and so forth - will enhance the need satisfaction of its inhabitants as they pertain to housing. These improvements may well meet subjective desires and enhance the satisfaction of wants, but they are irrelevant to the evaluation of need-based welfare.

Warr goes on, however, to note that some vitamins have a contrary impact: in very large quantities they become positively harmful. These he calls AD components after the vitamins A and D (and conveniently acting as a mnemonic for 'additional decrements'). The same will be the case with some intermediate needs. For example, certain health-generating foods if eaten in excess can cause ill-health and become life-threatening. For these categories of satisfiers, there is a plateau of food consumption on either side of which too little or too much is harmful. The same is probably true of too much security in childhood and adulthood and some other satisfiers of intermediate needs. The two sorts of relationship are shown in Figure 8.1. Thus the crucial task in constructing indicators of need satisfaction is to ascertain the minimum quantity of intermediate need satisfaction required to produce the optimum level of basic need satisfaction measured in terms of the physical health and autonomy of individuals. In the spirit of Rawls, we could call this level the minimum optimorum. It is apparent that this target combines the search for minima in satisfiers with the search for optima in outcomes, but that unlike other approaches which emphasize the importance of basic needs, it subordinates the former to the latter. For instance, if, on the basis of the best available knowledge, further improvements in education provision can enhance a population's physical health or critical autonomy, then it follows that their needs for education are not at present being optimally satisfied and that they should be regarded as in a state of objective deprivation.

Figure 8.1 about here

A qualification must be made to this procedure in the case where universal satisfiers of intermediate needs are substitutes for one another, or complement one another, within specified ranges of values. As an example of substitutibility, a warmer environment or reduced heavy labour will reduce the food requirements of humans [Cutler,1984, p.1121 et seq]. The evidence of complements between basic needs is strong: for example, female literacy contributes to health, nutrition, and lower fertility [Burki & Ul Haq, 1981, p.171 et seq; Stewart, 1985, ch.5]. More research is needed on all these relations and their linkages. Where either complements or substitutes exist, the minimum level of consumption of input A cannot be specified without knowing the level of consumption of inputs B, C, etc [Mallmann & Marcus, 1980]. This apart however, all intermediate needs should be satisfied up to the minimum optimorum level. Where they are of the AD type, this should be below the point where additional decrements appear.

Another qualification concerns the ecological constraint to generalisability discussed in Chapter 7. It is conceivable that for some intermediate needs (particularly health and education services) the point at which provision ceases to enhance basic need satisfaction lies so far to the right on Figure 8.2 that the

minimum optimorum position cannot be universally achieved with available resources. In this case a constrained optimum is called for, specifying the highest level of basic need satisfaction which is generalisable over the relevant population. A strong moral case was advanced in Chapter 6 for regarding the whole population of the world as the only relevant group when defining generalisability. This entails an operational notion of 'sustainable' economic development, an issue which we tackle in Chapter 11. Again, however, in making actual strategic choices in the here and now, a less universal conception of the relevant population may well be the only feasible one. For all practical purposes, this will mean the populations of nation states which are representative of specific types of socio-economic constraints and which do well in relation to all the levels of individual need satisfaction.

Problems in devising social indicators of need satisfaction

But what exactly does 'do well' mean in this context? We still require valid and reliable 'social indicators' to assess the degree of success in meeting both our basic needs for physical health and autonomy, and the intermediate needs identified in Table 8.1. Yet, since all such indicators are surrogate measures - proxies for the strictly unmeasurable concepts which underlie them [Carley, 1982, p.2; Miles, 1985, p.16 et seq] - there will always be scope for proper debate about the suitability of any measure as an index of the satisfaction of any need. Let us consider the remaining problems identified in the literature under four headings.

1.Validity. How valid is 'calorie consumption per head as a proportion of FAO requirements' as a measure of 'adequate and appropriate nutrition'? Is 'overcrowding' captured by a measure of 'proportion of people living at a density of more than two persons per room'? But there is always the danger of focussing on whatever happens to be easily measurable. Associated with this is the risk of substituting an 'input' for an 'output' or an 'outcome'. An example of both dangers would be measuring 'learning' by 'years attendance at school'. Of course, such a counsel of excellence risks paralysing all attempts to chart the human condition. In practice, when direct measurement is impossible, some 'translation' must be supplied which links the desired standard to the feasible measuring instrument [Carr-Hill, 1984, p.183; Streeten, 1981, ch.21]. While we must learn from current best practice, our theory does offer some help. It defines a clear set of final outcomes - individual health and autonomy - from which intermediate 'inputs' can be derived. In this way it provides a theoretical rationale for accepting some commonly used social indicators (such as life expectancy), rejecting others (such as 'leisure') and identifying important lacunae (such as indicators of 'children at risk' or 'social isolation').

2.Disaggregation and distribution. All compilers of social indicators must face the question of how far and how to disaggregate their data. Three broad alternatives can be distinguished, of which we shall use two (5). The first is to chart differences between individuals, for example by using the proportions falling below some benchmark (eg. below 2000 calories a day). Our theory focusses attention on absolute not relative differences, and in particular on the absolute standard of the worst off. Consequently, it endorses this sort of indicator

rather than indicators of the average conditions of a group, such as life expectancy. Using this first method, different sets of individuals may fall below the benchmarks in different domains of need. The second method is to disaggregate measures of need satisfaction between groups which consistently score high or low marks. In Chapter 12 we shall present indicators of need satisfaction distingushing between women and men.

3.Composite indicators of well-being. Unlike national income per head the social indicators approach results in a messy profusion of domains of need, each often measured by more than one indicator. This has led to a search for a composite indicator which will capture well-being in a single figure. There are two approaches here.

The first entails weighting several indicators to form a single one. The 'Physical Quality of Life Index' is one such which has been much used in the development literature [Morris, 1979]. The PQLI is a simple unweighted average of indices representing infant mortality, life expectancy at age one and basic literacy. Need satisfaction in these domains can be measured from the most minimal to an optimum defined in much the same way as we have done. So, infant mortality is ranked on a scale from, at one extreme, the worst national level recorded since 1950 to, at the other extreme, a 'best conceivable' level taking into account the present achievement of Sweden, the world leader. Similarly, life expectancy is scaled from the lowest recorded national level since 1950 to the likely average maximum assuming that unforeseeable developments do not extend the normal human lifespan (77 years, two years longer than the then Swedish level). Weighted equally alongside the percentage literacy rate these constitute the PQLI.

Unfortunately, this measure can be criticised on conceptual as well as methodological grounds [Streeten, 1981, pp.387-90]. We have implied above that one domain of intermediate need satisfaction cannot be traded off against another (except where there is clear evidence of complementarity or substitutability). No amount of childhood security can compensate for lack of shelter today; nor can better nutrition offset a poisonous environment. Rather each domain should be assesed separately and evaluated according to the minimum or minimum optimorum standard. Furthermore, the PQLI endorses a minimalist notion of health and autonomy - acceptable for charting how badly we are doing but not capable of extending onwards to measure broader human progress. It also sidesteps the communicational and constitutional procedures without which progress towards optimal levels of need satisfaction is impossible. (6)

An alternative approach to the problem of aggregation [Streeten,1981, pp.390-4] is to use average life expectancy or some other measure as the indicator of human development. Recent research suggests that it is highly correlatedwith doctors per head, calorie supply and even more robustly, with literacy [Stewart, 1985, ch.4]. Our theory explains why life expectacy is so crucial for any consideration of human need. However, it does so by extending this focus on survival to a far broader concern with optimal physical health and personal autonomy. Unless a valid indicator of this entire syndrome is discovered, the problems of compositing more than one indicator will remain. Until then, social indicators are necessarily disaggregated. Though we should not foreclose the search for summary measures of

human well-being, the idea of a single indicator (like GNP per head) will probably remain a search for the Holy Grail.

4.Who decides? Quantitative v. qualitative research into human needs. Lastly there is the perpetual dilemma facing research into needs. If it is agreed that both subjective preference and professional/bureaucratic dictate are suspect in determining what needs are and how they are measured, who is to decide on the appropriate social indicators and how? The consensual answer to emerge in the last two decades is 'participation' [Streeten, 1984, pp.974-5]. Effective and informed participation on the part of the population whose needs are being assessed is vital, and has yielded impressive results at village level according to some studies [UNRISD,]. By itself, however, an emphasis on participation is no panacea. Among other things, it can advantage the already-privileged through their ability to manipulate the information process and can sacrifice the common good to sectional interpretations of it.

Our approach offers some clues to overcoming this dilemma. We have already seen that our theory is essentially 'iterative': universal and objective needs can be shown to exist but the ongoing growth of knowledge continually modifies and improves our understanding of intermediate needs and how they can best be satisfied. This new knowledge in turn feeds back into and alters the indicators for the evaluation of social policies. The list of intermediate needs (eg nutritional food) and their appropriate universal satisfiers indicators (eg foods with specific nutritional content) is continually open to query and improvement as a result of the growth of codified and experiential knowledge. This applies a fortiori to the process of determining culturally specific satisfiers (eg specific types of food with particular nutritional content).

For the moment let us note that our theory endorses the use of both quantatitive and qualititative research methods [see Bryman, 1988, especially ch.6]. Except for the very smallest groups, the evaluation of need satisfaction must necessarily involve quantitative social indicators: numerical statistics which summarise conditions pertaining to groups of people. There are other advantages of such data, notably that they enable one to compute the degree of difference in need satisfaction between groups, or their rate of change over time. Nevertheless, this does not rule out a role for qualitative research in providing an understanding of the meaning of actions, and thus in devising and refining indicators of basic need satisfaction. Both quantitative and qualitative research have a role to play in deepening our understanding of what it practically means to meet human needs. But at any point in time it will be quantitative statistics to which one initially turns when charting progress in this respect.

Starting with basic needs for physical health and human autonomy we have demarcated 'universal satisfier characteristics' - those characteristics of need satisfiers which are common to all cultures - and used these to determine categories of 'intermediate needs'. The target standard of satisfaction of each characteristic is the minimum necessary to secure optimum individual health and autonomy, in turn defined as the highest standard presently achieved in any nation state. Constrained versions of the optimum and the 'minimum optimorum' standard are

also advocated for use in specific circumstances. To chart both basic and intermediate needs we ideally require social indicators which are valid, distributive, quantitative and aggregated, but which are open to revision. These indicators should be amenable to disaggregation between groups. In this way profiles of the need satisfactions of nations, cultural groups and other collectivities can be compiled.

Though all the above has been argued with respect to individual needs, the same process should be applicable to our societal preconditions. That is, we need to identify those societal preconditions which universally enable people rationally and democratically to identify and optimally satisfy their basic needs. This is tackled in Chapter 11.

FOOTNOTES

(1) Among the voluminous literature here, see Seers, 1979; Streeten, 1981, ch.18; Streeten et al, 1981, ch.1; Miles, 1985, ch.2; Hillhorst & Klatter, 1985; Leeson and Nixson, 1988, ch.2.

(2) Weigel [1986] is exempt from these criticisms, but he bases his case on sociobiological arguments which, while interesting, are fundamentally flawed for the reasons developed in Chapter 3.

(3) Braybrooke, 1987, ch.2.2. For comparisons of some of these taxonomies see Miles, 1985, ch.6; Baster, 1985;

(4) As found in the work of Townsend [1979]. See also Mack and Lansley [1985], and, for a survey of many of the methodological issues, the contributions to a special issue of the Journal of Social Policy, 16, 2, 1987.

(5) Carr-Hill, 1986, pp.305-6. The third alternative is to disaggregate between groups appropriate to the domain of need satisfaction under discussion. For example gender would be crucial when charting total work load, but not for physical environment.

(6) The recently published UNDP Report [1990] has constructed a Human Devlopment Index (HDI) along similar lines which has attracted a lot of attention. It combines life expectancy, literacy and income for a decent living standard (using as its measure of a 'desirable or adequate' level of the last the average official 'poverty line' in nine Western nations). It marks an advance on other indexes by developing a clearer theoretical formulation of human development as the formation of human capabilities and the use people make of their acquired capabilities for participating in various activities. This also clearly owes much to Sen's work and is similar to our own. However the HDI is still susceptible to the criticisms of all existing composite indexes outlined here. Such criticisms apply a fortiori to more complex, multi-faceted indices such as Estes' [1984] Index of Social Progress which combines together eleven subindices covering six dimensions of social progress using 44 social indicators. Here, in the absence of a solid theoretical foundation, the huge weight of measurement threatens to topple the entire edifice.